CONFRIMATIONAL GROUNDWATER MONITORING REPORT
July 2024 Sampling Event

SeaTac Development Site (MasterPark Lot C Property)
SeaTac, Washington

September 11, 2024

Prepared for

SeaTac Investments, LLC
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Confirmational Groundwater Monitoring Report
July 2024 Sampling Event
SeaTac Development Site
SeaTac, Washington

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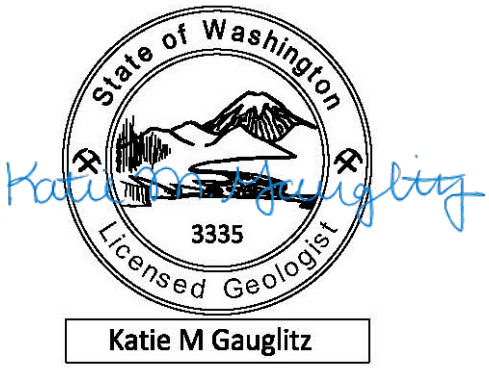

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LANDAU ASSOCIATES

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LIST OF ABBREVIATIONS AND ACRONYMS

µg/L ..... micrograms per liter
Apex ..... Apex Laboratories, LLC
ASTM ..... ASTM International
BTEX ..... benzene, toluene, ethylbenzene, and xylenes
CMP ..... compliance monitoring plan
COC ..... contaminant of concern
DO ..... dissolved oxygen
Ecology ..... Washington State Department of Ecology
EDB 1,2-dibromoethane
EPA ..... US Environmental Protection Agency
ft ..... feet, foot
Golder ..... Golder Associates, Inc.
GRO ..... gasoline-range organics
IAS/SVE ..... *in situ* air sparging and soil vapor extraction
Landau ..... Landau Associates, Inc.
mg/L ..... milligrams per liter
MNA ..... monitored natural attenuation
MRL ..... method reporting limit
MSL ..... mean sea level
MTCA ..... Model Toxics Control Act
ORP ..... oxidation reduction potential
Site ..... SeaTac Development Site (MasterPark Lot C Property)
SLR ..... SLR International Corporation
SM ..... Standard Method
subject property ..... 16025 International Boulevard, SeaTac, Washington

1.0 INTRODUCTION

On July 10, 2024, Landau Associates, Inc. (Landau) conducted quarterly confirmational groundwater monitoring at the SeaTac Development Site (Site), which is primarily located at 16025 International Boulevard in SeaTac, Washington (subject property). The location of the subject property, which is occupied by the MasterPark Lot C parking lot, is shown on Figure 1.

An *in situ* air sparging and soil vapor extraction (IAS/SVE) system was operated at the Site by Golder Associates, Inc. (Golder) from approximately May to July 2013, and December 2013 through July 2017 to remediate petroleum hydrocarbon-impacted groundwater. After the IAS/SVE system was deactivated in July 2017, performance groundwater monitoring was conducted on a semiannual basis from November 2017 through July 2019 to monitor changes in the petroleum hydrocarbon concentrations over time. The results of the performance groundwater monitoring showed that petroleum hydrocarbon concentrations in the groundwater beneath the northern and northwestern parts of the subject property remained above the Model Toxics Control Act (MTCA) Method A cleanup levels by July 2019 (SLR International Corporation [SLR] 2019). To reduce the remaining petroleum hydrocarbon concentrations in groundwater, SLR reactivated the IAS/SVE system on September 5, 2019. The system was operated through July 15, 2020, when it was deactivated prior to the July 2020 performance groundwater monitoring event. Based on the results of the January and July 2020 performance groundwater monitoring events (SLR 2020a, b), it appeared that the IAS/SVE system had effectively reduced the petroleum hydrocarbon concentrations in the groundwater beneath the subject property to levels that should naturally attenuate to below cleanup levels within a reasonable time frame. It was also determined that the system performance had reached asymptotic conditions. Therefore, the IAS/SVE system was not reactivated after the July 2020 performance groundwater monitoring event and has not been active at the Site since July 2020.

In accordance with the Compliance Monitoring Plan (CMP; Golder 2011) for the Site, the confirmational groundwater monitoring program has been conducted to evaluate the potential rebound of contaminant concentrations after the deactivation of the IAS/SVE system, and, if there is minimal rebound, to demonstrate that the contaminant concentrations have been reduced to below the cleanup levels or to concentrations that will naturally attenuate to below the cleanup levels within a reasonable time frame. Quarterly confirmational groundwater monitoring events were conducted in October 2020, January 2021, April 2021, and July 2021. The groundwater sample analytical results showed some localized rebound of the gasoline-range organics (GRO) concentrations at monitoring wells MW-07, MW-12, and MW-22; however, the GRO concentrations were not at levels that justified reactivation of the IAS/SVE system (SLR 2020d, 2021a, b, c).

Semiannual confirmational groundwater monitoring was conducted in January and July 2022 in accordance with the CMP for the Site, as well as with the modifications to the confirmational groundwater monitoring program (SLR 2020c) that were approved by the Washington State Department of Ecology (Ecology; 2020). The groundwater sample analytical results from January 2022 showed that the sample from well MW-07 contained a GRO concentration that exceeded the MTCA Method A cleanup level. The groundwater samples from the other sampled wells did not contain analyte

concentrations greater than the Method A or Method B cleanup levels (SLR 2022a). In July 2022, none of the groundwater samples contained analyte concentrations greater than the MTCA Method A or Method B cleanup levels (SLR 2022b). Because there were no groundwater contaminant of concern (COC) concentrations greater than the Site cleanup levels, SLR verbally requested to Ecology that the confirmational groundwater monitoring proceed on a quarterly basis and that the July 2022 sampling event be considered the first quarterly sampling event, with subsequent sampling events to be conducted in October 2022, January 2023, and April 2023. To support that request, SLR formally requested modifications to the confirmational groundwater monitoring program (Staton 2022). On October 10, 2022, Ecology agreed with the requested changes to the confirmational groundwater monitoring program as long as the groundwater COC concentrations remain below the Site cleanup levels (Atkins 2022).

The groundwater sample analytical results from the October 2022 and January 2023 quarterly monitoring events showed that none of the samples contained analyte concentrations greater than the Site cleanup levels (SLR 2023a, b). The groundwater sample analytical results from the April 2023 quarterly monitoring event showed that samples collected from only one location, MW-12, contained analyte concentrations greater than Site cleanup levels (SLR 2023c). The sample from MW-12 contained a benzene concentration (7.02 micrograms per liter [µg/L]) that exceeded the cleanup level; a duplicate sample collected from MW-12 contained a GRO concentration (0.90 milligrams [mg/L]) and a benzene concentration (8.04 µg/L) that exceeded the cleanup levels. Because the four quarterly confirmational sampling event results showed that the contaminant concentrations have been reduced to below the cleanup levels or, at one localized area, to concentrations that will naturally attenuate to below the cleanup levels within a reasonable time frame, Landau formally requested Ecology's approval to discontinue the groundwater monitoring program at the Site to conclude the confirmational groundwater monitoring phase and proceed with Site closure (Landau 2023c). The request letter also emphasized that there is already a restrictive covenant in place for the subject property that states that "No groundwater may be taken for any use from the property excepting for purposes required by possible remedial actions." Ecology agreed to review the request but asked that the July 2023 quarterly confirmational groundwater monitoring event be conducted in the meantime. The results of the July 2023 monitoring event showed that the GRO concentration (an estimated value of 1.05 mg/L) at MW-12 exceeded the cleanup level. Based on these results, Ecology requested quarterly monitoring be conducted at MW-12 only, for 1 year, to evaluate if rebound is occurring at this location (Ecology 2023).

Quarterly monitoring resumed at MW-12 in October 2023. The sample analytical results showed that the sample from MW-12 contained a benzene concentration that was below the MTCA Method A cleanup level. The other analytes were not detected at concentrations above the laboratory's method reporting limits (MRLs; Landau 2023a). In January 2024, Ecology requested that monitored natural attenuation (MNA) sampling and analysis be added to the quarterly groundwater monitoring program over four quarters (Ecology 2024). In accordance with Ecology's request, quarterly confirmational monitoring was completed in January 2024 at MW-12, and MNA sampling was completed at wells MW-07, MW-12, MW-17A, and MW-19 as proposed in Landau's letter dated December 6, 2023 (Landau 2023b). The sample analytical results of the January 2024 monitoring event showed that the sample

from MW-12 contained a GRO concentration (0.5 mg/L) and a benzene concentration (0.52 µg/L) that were below the MTCA Method A cleanup levels (0.8 mg/L and 5.0 µg/L, respectively). The other analytes were not detected at concentrations above the MTCA Method A or Method B cleanup levels (Landau 2024). The groundwater monitoring event occurred prior to Ecology's request to add well MW-16 to the MNA monitoring along with adding manganese, methane, and alkalinity to the MNA analytical parameters (Ecology 2024). The additional well and MNA analytical parameters were added to the sampling program in April 2024. The sample analytical results of the April 2024 monitoring event showed that the sample from MW-12 did not contain concentrations of Site COCs above the MTCA Method A or Method B cleanup levels (Landau 2024).

Based on the previous performance and age of the IAS/SVE system equipment, Ecology approved the decommissioning of the IAS/SVE system in its letter dated January 30, 2024 (Ecology 2024). System decommissioning was completed in May 2024.

Quarterly confirmational monitoring was completed in July 2024 at MW-12, and MNA sampling was completed at wells MW-07, MW-12, MW-16, MW-17A, and MW-19 as requested in Ecology's letter dated January 30, 2024 (Ecology 2024). A follow-up groundwater sample was collected from MW-12 in August 2024. The results of the July 2024 monitoring event and the August 2024 additional sample are reported in the following sections.

2.0 JULY 2024 GROUNDWATER MONITORING EVENT

On July 10, 2024, Landau personnel collected groundwater samples from monitoring wells MW-07, MW-12, MW-16, MW-17A, and MW-19. The location of each well is shown on Figure 2.

Prior to collecting the groundwater samples, Landau personnel measured the depths to groundwater in the Site monitoring wells (with the exception of those located within South 160th Street due to access restrictions) by using an electronic water level meter. During sample collection, Landau used the existing dedicated submersible bladder pumping system located in the wells to purge approximately 1 to 2 gallons of water from the wells. The pH, specific conductance, temperature, oxidation reduction potential (ORP), dissolved oxygen (DO), and turbidity of the extracted water were measured approximately every 3 minutes. A groundwater sample was collected from each well following the stabilization of the field parameter measurements. Landau documented the groundwater purging and sampling activities on Low-Flow Groundwater Sampling Field Data Sheets, which are presented in Appendix A. The final field parameter readings prior to sample collection are available in Appendix B. The groundwater samples were collected in the appropriate sample containers provided by Apex Laboratories, LLC (Apex) of Tigard, Oregon.

In accordance with the CMP and the modifications to the confirmational groundwater monitoring program, the groundwater sample from MW-12 was submitted to Apex for analysis of the groundwater COCs for the Site (benzene, toluene, ethylbenzene, total xylenes [BTEX], naphthalene, and n-hexane by US Environmental Protection Agency [EPA] Method 8260D; 1,2-dibromoethane [EDB] by EPA Method 8260D selected ion monitoring; and GRO by Ecology Method NWTPH-Gx). Based on the MNA analytical parameters proposed in Landau's letter dated December 6, 2023 and Ecology's response letter dated January 30, 2024, the groundwater samples from MW-07, MW-12, MW-16, MW-17A, and MW-19 were analyzed for nitrate, nitrite, and sulfate by EPA Method 300.0; ammonia as nitrogen by ASTM International (ASTM) Method SM4500-NH3 G; total organic carbon by ASTM Method 5310C; alkalinity by Standard Method (SM) 2320B; methane by RSK-175; and soluble manganese by EPA Method 6020B (Ecology 2024, Landau 2023b).

On August 8, 2024, Landau personnel collected a follow-up groundwater sample from MW-12 to confirm the results of the July groundwater monitoring event. The same sampling procedures outlined above were followed, and the sample was analyzed for BTEX and GRO by Apex. Field documentation for collection of this sample is provided in Appendix A, and the final field parameter readings prior to sample collection are available in Appendix B.

The sampling purge water is stored in a properly labeled 55-gallon drum at the subject property. The water will be transported to a licensed facility for offsite treatment and disposal.

2.1 Groundwater Monitoring Results

On July 10, 2024, the depths to groundwater in the monitoring wells ranged from 47.55 to 108.20 feet (ft) below the top of each well casing. The groundwater elevations in the wells ranged from 308.37 to 312.79 ft above mean sea level (MSL). On August 8, 2024, the depth to groundwater in monitoring well

MW-12 was 55.89 ft below the top of the well casing and 308.94 ft above MSL. The depth to groundwater measurements and groundwater elevations in the monitoring wells on July 10 and August 8, 2024, are presented in Table 1.

Based on the groundwater elevations on July 10, 2024, the general groundwater flow direction beneath the subject property area was primarily to the southwest with localized western flow components. Due to anomalous depth to groundwater measurements, the groundwater elevation in wells MW-1 and MW-13 were not used to evaluate the groundwater flow direction. MW-1 is screened less than 3 ft below the high seasonal groundwater table and is frequently dry. The groundwater elevation in MW-10 was also not used to evaluate the groundwater flow direction because the top of the well screen was more than 30 ft below the groundwater table. A groundwater elevation contour map of the data collected on July 10, 2024, is presented on Figure 3.

2.2 Groundwater Sample Analytical Results

The groundwater sample analytical results showed that the sample from MW-12 contained a GRO concentration (4.13 mg/L) that exceeded the MTCA Method A cleanup level (0.80 mg/L when benzene is present) and a benzene concentration (11.6 µg/L) that exceeded the MTCA Method A cleanup level (5 µg/L). No other Site COCs were detected at concentrations above the applicable cleanup levels.

Geochemical conditions for the aquifer beneath the northern part of the Site were characterized using field readings for DO, ORP, and ferrous iron, as well as the groundwater sample analytical results for the MNA parameters. The redox conditions at the Site were determined using a weight of evidence approach to evaluate the DO, ORP, nitrate, nitrite, manganese, ferrous iron, and sulfate data. When oxygen is depleted (definition of anaerobic conditions), microorganisms preferentially use less-oxidized natural electron acceptors in the following order: nitrate, manganese (IV), iron (III), sulfate, and carbon dioxide. Anaerobic conditions can range from mildly reducing (nitrate-reducing) to highly reducing (sulfate-reducing to carbon dioxide-reducing [methanogenic] conditions). The redox conditions at the Site in July 2024 were generally as follows:

- MW-07 (previously impacted well): anaerobic (iron-reducing)
- MW-12 (remaining impacted well): anaerobic (iron-reducing)
- MW-16 (hydraulically downgradient/cross-gradient well): aerobic
- MW-17A (hydraulically downgradient well): aerobic
- MW-19 (hydraulically upgradient well): aerobic.

Based on this evaluation, the groundwater redox conditions beneath the northern part of the Site include both aerobic and anaerobic conditions. Based on the aerobic conditions outside of the areas of previous and current petroleum hydrocarbon contamination, it appears that bacteria in the subsurface are using oxygen to degrade the remaining petroleum hydrocarbons in the vicinity of MW-12.

The July 2024 groundwater sample analytical results are presented in Tables 2 and 3 (groundwater COCs and geochemical parameters, respectively), and the GRO and benzene concentrations are also

presented on Figure 2. The groundwater sample analytical results (COCs only) from the July 2024 monitoring event, as well as from the previous groundwater monitoring events (groundwater COCs only), are presented in data tables and on trend plots in Appendix B. The laboratory report from the July 2024 sampling event is included in Appendix C.

3.0 DATA QUALITY ASSURANCE AND VALIDATION

Based on the results of a data validation review, the groundwater sample analytical data were acceptable without data qualifications with the exception of the nitrite result for MW-17A on July 10, 2024. This result was rejected because the sample was analyzed after the method-recommended hold time had already been exceeded; the rejected result was not detected above the laboratory's MRL.

Landau collected an equipment blank sample, and a trip blank sample was provided by the laboratory. Both samples were analyzed for BTEX and GRO. The analytical results showed that the equipment blank and trip blank samples did not contain any analyte concentrations greater than the laboratory's MRLs, indicating the analyzed concentrations in the samples were not affected by potential field contamination.

4.0 CONCLUSIONS

On July 10, 2024, Landau conducted a quarterly confirmational groundwater monitoring event at the SeaTac Development Site, and a follow-up sample was collected from MW-12 on August 8, 2024. The objectives of the confirmational groundwater monitoring program are to evaluate the potential rebound of contaminant concentrations after the deactivation of the IAS/SVE system in July 2020 and evaluate if natural attenuation of the remaining petroleum hydrocarbon concentrations is occurring.

The groundwater sample analytical results from the nine quarterly confirmational monitoring events since July 2022 indicate localized, seasonal increases of GRO and benzene concentrations beneath the northwestern corner of the subject property; however, the previous IAS/SVE operations and natural attenuation have reduced the volatile petroleum hydrocarbon concentrations at the Site to below the cleanup levels or to levels that should naturally attenuate to below the cleanup levels within a reasonable time frame. The anaerobic conditions and groundwater sample analytical results at MW-12 indicate that the remaining contamination at that location should naturally degrade to concentrations below cleanup levels. Based on natural attenuation and the existing institutional controls that prevent use of the groundwater beneath the property, the risk associated with the remaining contamination is low.

5.0 USE OF THIS REPORT

This report has been prepared for the exclusive use of SeaTac Investments, LLC and Scarsella Bros., Inc., for specific application to the SeaTac Development Site. No other party is entitled to rely on the information, conclusions, and recommendations included in this document without the express written consent of Landau. Further, the reuse of information, conclusions, and recommendations provided herein for extensions of the project or for any other project, without review and authorization by Landau, shall be at the user's sole risk. Landau warrants that within the limitations of scope, schedule, and budget, our services have been provided in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions as this project. Landau makes no other warranty, either express or implied.

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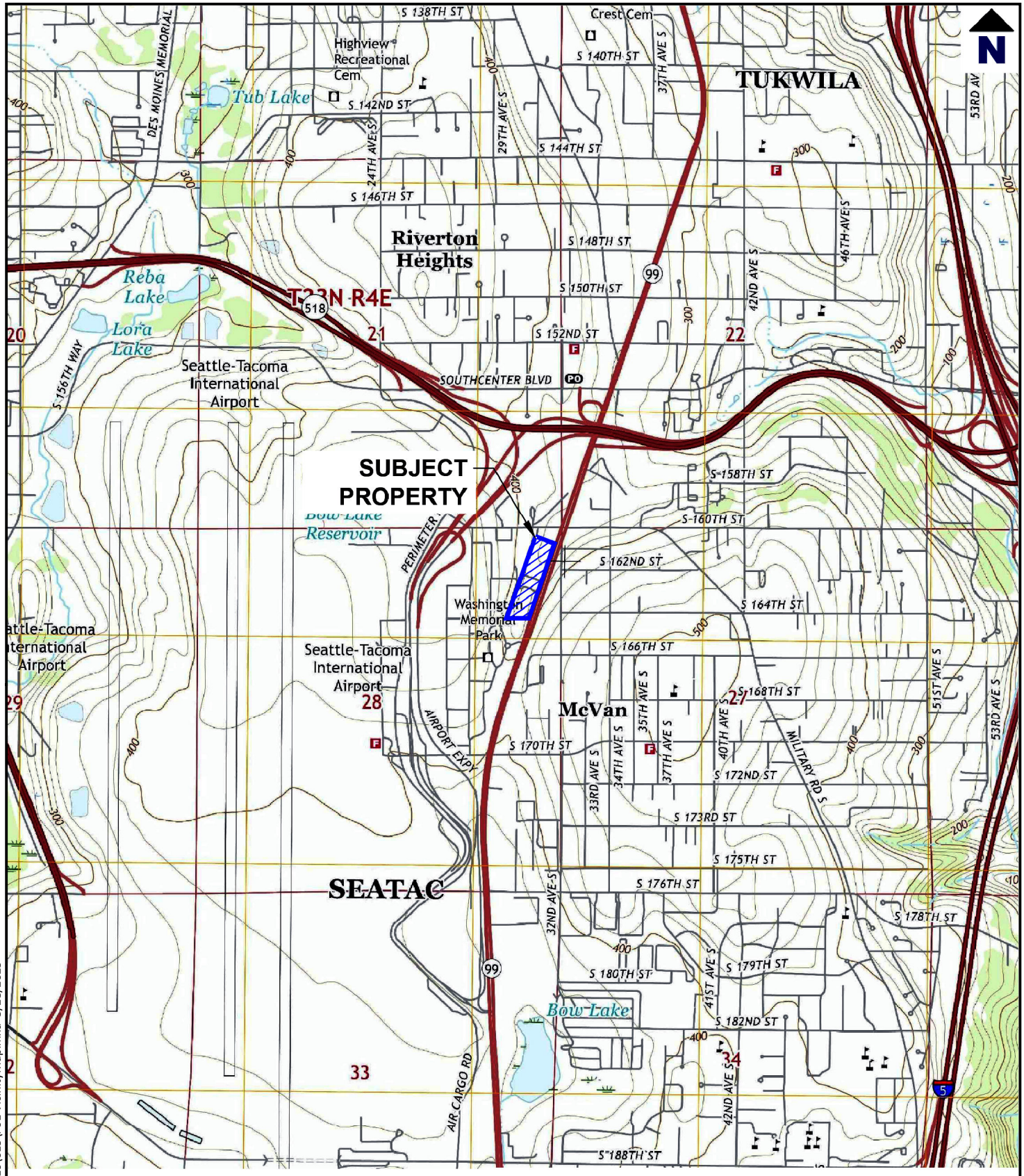

REFERENCED FROM :
USGS 7.5 MINUTE QUADRANGLE DES MOINES, 2017

0 2000' 4000'

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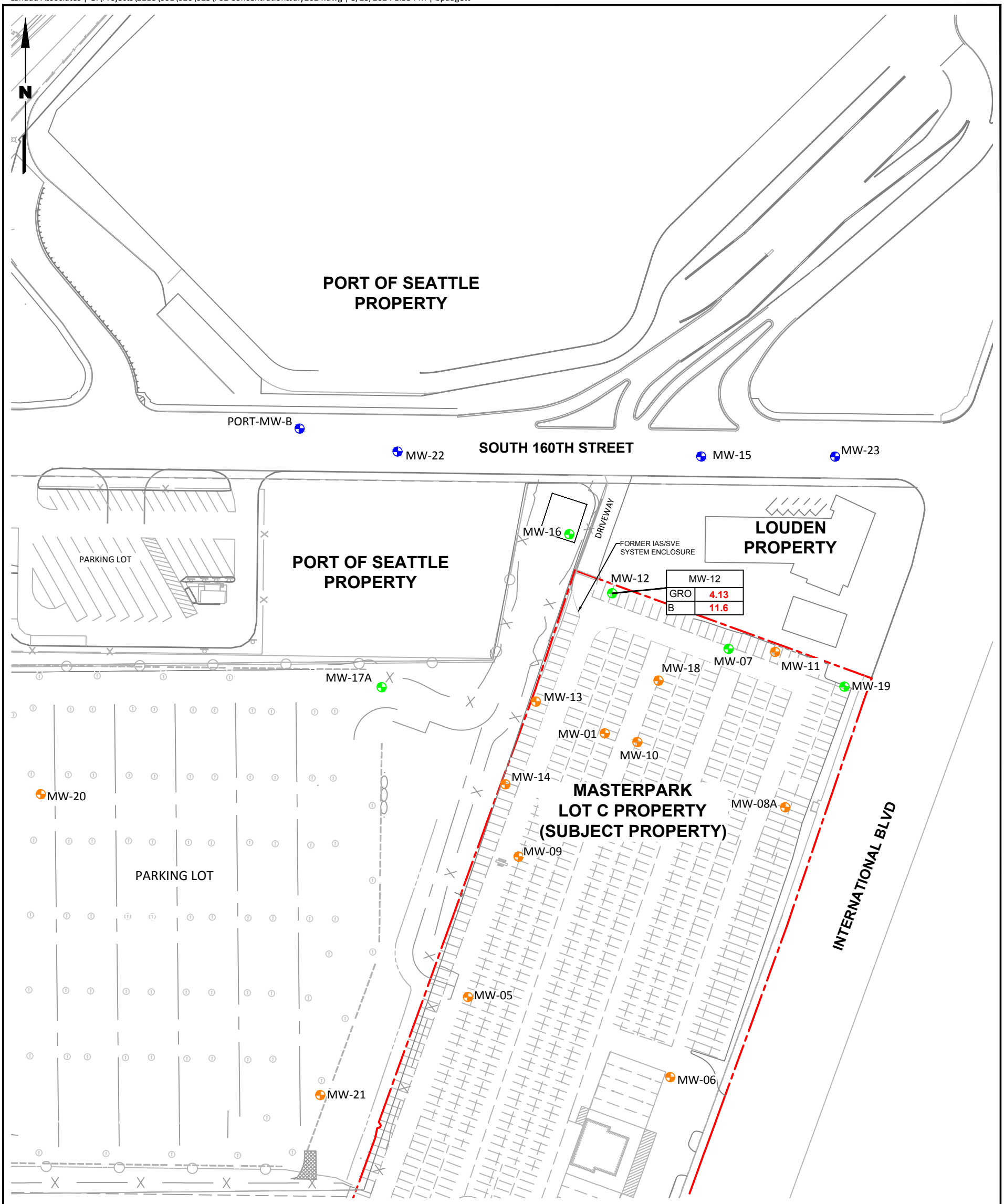
SeaTac Development Site SeaTac, Washington	**Subject Property Location Map**	Figure 1



Legend

- MW-14 — SITE MONITORING WELL LOCATION AND DESIGNATION - GROUNDWATER ELEVATIONS MEASURED
- MW-12 — SITE MONITORING WELL LOCATION AND DESIGNATION - NATURAL ATTENUATION MONITORING WELL
- MW-22 — SITE MONITORING WELL LOCATION AND DESIGNATION
- SUBJECT PROPERTY LINE
- FENCE

MW-12	
GRO (GASOLINE-RANGE ORGANICS)	0.50
B (BENZENE)	0.52

SAMPLE LOCATION
ANALYTICAL RESULT IN mg/L
ANALYTICAL RESULT IN µg/L

Notes

1. BASE MAP BASED ON IAS AND SVE PIPING LAYOUT FIGURE (12/02/15) AND GROUNDWATER MONITORING LOCATIONS MAP (05/01/19) PRODUCED BY GOLDER ASSOCIATES, INC.
2. CONCENTRATIONS IN **BOLD AND RED** EXCEEDED THE MTCA METHOD A GROUNDWATER CLEANUP LEVEL.
3. mg/L = MILIGRAMS PER LITER
4. µg/L = MICROGRAMS PER LITER
5. BLACK AND WHITE REPRODUCTION OF THIS COLOR ORIGINAL MAY REDUCE ITS EFFECTIVENESS AND LEAD TO INCORRECT INTERPRETATION.

Source: SLR, 2023

0 100 200
Scale in Feet

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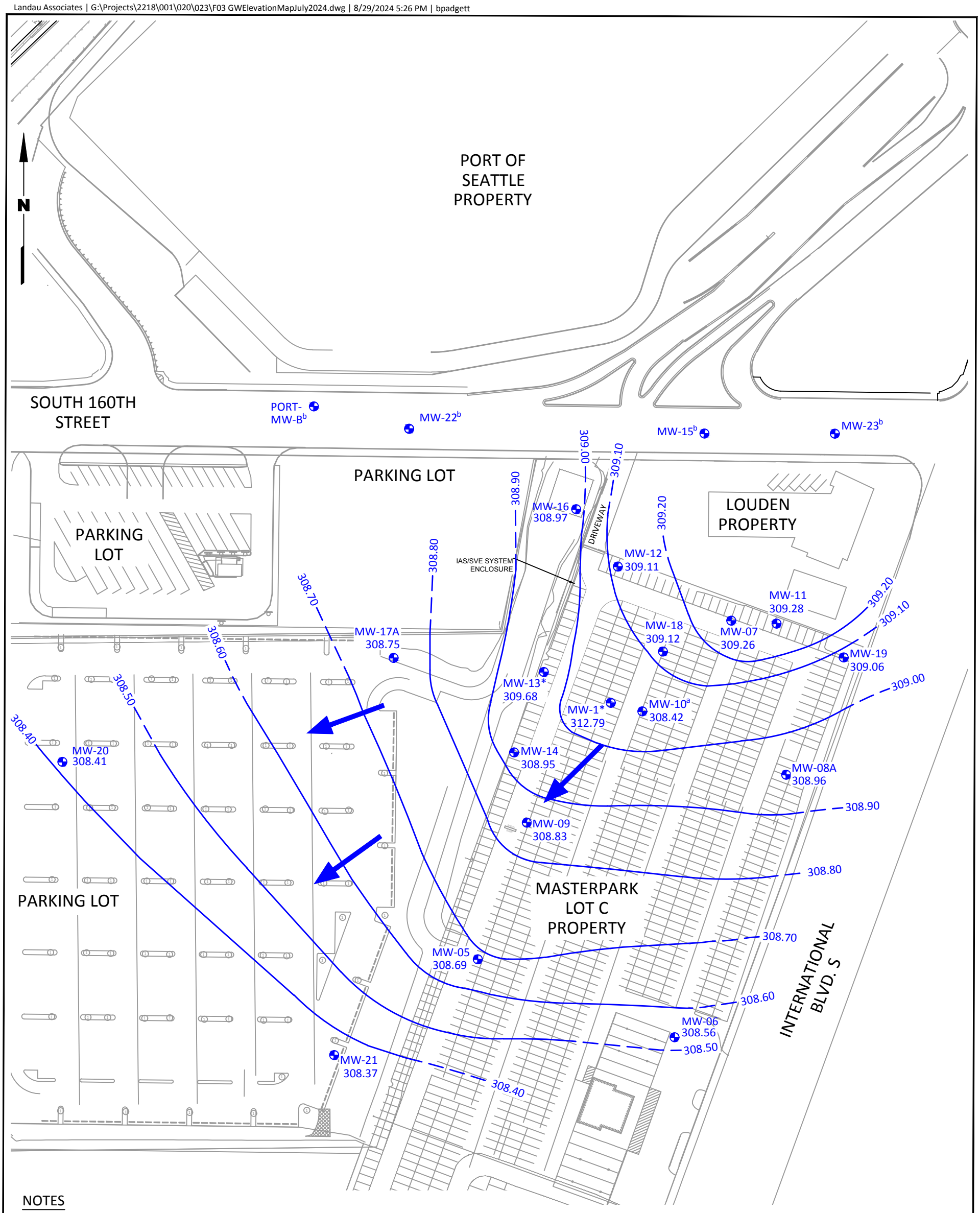
Seatac Development Site
Seatac, Washington

GRO and Benzene Concentrations in Groundwater Samples July 2024

Figure 2



NOTES

1. BASEMAP BASED ON IAS AND SVE PIPING LAYOUT FIGURE (12/02/15) AND GROUNDWATER MONITORING LOCATIONS MAP (05/01/19) PRODUCED BY GOLDER ASSOCIATES, INC.
2. * = DUE TO AN ANOMALOUS DEPTH TO GROUNDWATER MEASUREMENT, THE GROUNDWATER ELEVATION WAS NOT USED FOR CONTOURING.
3. a = SINCE WELL MW-10 IS SCREENED OVER 30 FEET BELOW THE GROUNDWATER TABLE, THE GROUNDWATER ELEVATION IN MW-10 WAS NOT USED FOR CONTOURING.
4. b = DUE TO ACCESS RESTRICTIONS, THE WELL WAS NOT MEASURED DURING THE JULY 2024 EVENT.
5. BLACK AND WHITE REPRODUCTION OF THIS COLOR ORIGINAL MAY REDUCE ITS EFFECTIVENESS AND LEAD TO INCORRECT INTERPRETATION.

LEGEND

MW-21	SITE MONITORING WELL LOCATION AND DESIGNATION
310.17	GROUNDWATER SURFACE ELEVATION (IN FEET ABOVE MEAN SEA LEVEL) ON JULY 10, 2024
310.10'	GROUNDWATER SURFACE ELEVATION CONTOUR LINE (IN FEET ABOVE MEAN SEA LEVEL)
→	GENERAL GROUNDWATER FLOW DIRECTION

Source: SLR, 2023

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Seatac Development Site
Seatac, Washington

Groundwater Elevation Contour Map July 2024

Figure 3

Table 1
Groundwater Monitoring Data - July and August 2024
SeaTac Development Site
SeaTac, Washington

Well Number	Top of Casing Elevation[a] (ft)	Approximate Depth of Well Screen (ft bgs)	Date Measured	Depth to Groundwater (ft)	Groundwater Elevation (ft)
MW-01	361.38	41 to 51	7/10/2024	48.59	312.79
MW-05	364.26	48 to 58	7/10/2024	55.57	308.69
MW-06	369.68	50 to 60	7/10/2024	61.12	308.56
MW-07	358.69	43.5 to 53.5	7/10/2024	49.43	309.26
MW-08A	359.16	44 to 54	7/10/2024	50.20	308.96
MW-09	362.13	47.5 to 57	7/10/2024	53.30	308.83
MW-10	360.18	80 to 90	7/10/2024	51.76	308.42
MW-11	357.53	42 to 57	7/10/2024	48.25	309.28
MW-12	364.83	52 to 67	7/10/2024	55.72	309.11
	364.83	52 to 67	8/8/2024	55.89	308.94
MW-13	365.42	50 to 65	7/10/2024	55.74	309.68
MW-14	363.76	50 to 65	7/10/2024	54.81	308.95
MW-16	377.63	64 to 74	7/10/2024	68.66	308.97
MW-17A	394.44	80 to 95	7/10/2024	85.69	308.75
MW-18	360.45	47 to 62	7/10/2024	51.33	309.12
MW-19	356.61	43 to 58	7/10/2024	47.55	309.06
MW-20	416.61	103 to 113	7/10/2024	108.20	308.41
MW-21	412.85	95 to 110	7/10/2024	104.48	308.37

Notes:

[a] The top of well casing elevations were surveyed relative to mean sea level.

Abbreviations and Acronyms:

bgs = below ground surface
ft = feet

Table 2
Groundwater Field Parameters and Sample Analytical Results for Groundwater COCs
July and August 2024 Sampling Event
SeaTac Development Site
SeaTac, Washington

Well ID	Date Sampled	Analytical Data											
		GRO[a] (mg/L)	Benzene[b] (µg/L)	Toluene[b] (µg/L)	Ethylbenzene[b] (µg/L)	Total Xylenes[b] (µg/L)	EDB[c] (µg/L)	N-hexane[b] (µg/L)	Naphthalene[b] (µg/L)	DRO[d] (mg/L)	ORO[d] (mg/L)	DRO[d] after Silica Gel Cleanup (mg/L)	ORO[d] after Silica Gel Cleanup (mg/L)
MTCA Method A Groundwater Cleanup Levels[e]		**0.8[f]/1.0[g]**	**5.0**	**1,000**	**700**	**1,000**	**0.01**	**480[h]**	**160**	**0.5**	**0.5**	**0.5**	**0.5**
MW-12	7/10/2024	**4.13**	**11.6**	31.2	194	396	<0.0900[i]	38.3	36.3	NA	NA	NA	NA
MW-12	8/8/2024	**5.20**	**10.6**	37.4	198	468	NA	NA	NA	NA	NA	NA	NA

Notes:

Values in bold and **red** exceed MTCA Method A Cleanup Levels.

[a] Analyzed by Ecology Method NWTPH-Gx.

[b] Analyzed by EPA Method 8260D.

[c] Analyzed by EPA Method 8260D SIM.

[d] Analyzed by Ecology Method NWTPH-Dx.

[e] Ecology's Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC), Tables 720-1, Method A Cleanup Levels for Groundwater.

[f] When benzene is present.

[g] When benzene is not present.

[h] Method B cleanup level used because Method A cleanup level is not established. Standard formula values, direct contact Method B groundwater cleanup levels as published on Ecology's Cleanup Level and Risk Calculation (CLARC) online database (May 2024).

[i] The analyte was not detected at or above the method detection limit (MDL); however, the MDL exceeded the cleanup level.

Abbreviations and Acronyms:

µg/L = micrograms per liter
DRO = diesel-range organics
EDB = 1,2-dibromoethane
GRO = gasoline-range organics
ID = identification
mg/L = milligrams per liter
NA = not analyzed
ORO = oil-range organics

Table 3
Geochemical Sampling Analytical Results for Groundwater
July and August 2024 Sampling Event
SeaTac Development Site
SeaTac, Washington

		Geochemical Parameters								Field Parameters					
Well ID	Date Sampled	Nitrate-N[a] (mg/L)	Nitrite-N[a] (mg/L)	Methane[b] (mg/L)	Sulfate[a] (mg/L)	Ammonia[c] (mg/L)	Manganese[d] (mg/L)	Total Organic Carbon[e] (mg/L)	Alkalinity[f] (mg $CaCO_3$/L)	Temperature(°C)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	pH	Ferrous Iron (m/L)	Aquifer Redox State
MW-7	7/10/2024	<0.250	<0.250	0.81	4.56	0.156	2.91	2.10	113	18.0	0.59	-5.9	6.25	4.2	Iron to sulfate reducing
MW-12	7/10/2024	<0.250	<0.250	0.57	4.38	0.628	22.0	9.00	273	16.6	0.17	-39.1	6.98	2.4	Iron to sulfate reducing
	8/8/2024	NA	NA	NA	NA	NA	NA	NA	NA	15.6	0.76	-40.9	7.33	NA	
MW-16	7/10/2024	0.170 J	<0.250	<0.001	7.26	0.0110 J	1.47	0.29 J	21.4	14.5	1.18	126.5	5.91	<0.2	Aerobic
MW-17A	7/10/2024	6.15	R	<0.001	36.8	<0.0200	0.624	0.50	61.8	14.5	1.70	117.6	6.00	<0.2	Aerobic
MW-19	7/10/2024	0.147 J	<0.250	<0.001	16.0	0.0130 J	0.256	0.29 J	70.2	15.5	0.58	89.5	6.55	<0.2	Aerobic

Notes:

[a] Analyzed by US Environmental Protection Agency (EPA) Method 300.0.

[b] Analyzed by RSK 175.

[c] Analyzed by SM 4500-NH3-G.

[d] Analyzed by EPA 6020B.

[e] Analyzed by SM 5310C.

[f] Analyzed by SM 2320B.

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R = The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample.

Abbreviations and Acronyms:

°C = degrees Celsius
ID = identification
mg/L = milligrams per liter
mV = millivolts
NA = not analyzed

APPENDIX A

Low-Flow Groundwater Sampling Field Data Sheets

LANDAU ASSOCIATES

// GROUNDWATER LOW-FLOW SAMPLE COLLECTION FORM

Project Name: SeaTac Development | Project Number: 2218001.010.022
Event: Quarterly Groundwater Sampling | Well ID: MW-7
Weather: 80s; sunny | Sample ID: MW-7- 240710
Landau Rep.: Spencer Lo | Date: 07/10/24 | Time: 12:37

WELL INFORMATION

Screened Interval: Top (ft): 43.50 | Bottom (ft): 53.50 | Well Secure? ☐ No ☑ Yes | Damaged? ☑ No ☐ Yes
DTW After Cap Opened (ft): | Time: | Describe:
Static DTW (ft): 49.43 | Time: 8:18 | Flow-Thru Cell Vol.: 200 mL | WQM No.: YSI #5
Begin Purge (Date/Time): 7/10/2024 12:09 | End Purge (Date/Time): 7/10/2024 12:36 | Gallons Purged: 1.8
Water Disposal: ☑ 55-gal drum ☐ Storage tank ☐ Ground ☐ Other:

PURGE DATA

Cell shading indicating purge stabilization is for informational purposes only.

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Purge Vol ≥1 flow-thru cell vol.	Comments/ Observations
Stabilization →	± 3%	± 10%	± 3%	± 0.1 units	± 10 mV	± 10%	± 0.00 ft	(Yes/No)	
12:12	17.8	4.32	303.9	6.17	109.7	-	49.84	yes	clear; no odor
12:15	17.9	0.93	323.5	6.13	95.4	-	49.94	yes	clear; no odor
12:18	17.8	0.80	321	6.17	70.5	-	49.95	yes	clear; no odor
12:21	17.6	0.76	323.3	6.19	51.7	-	50.01	yes	clear; no odor
12:24	17.7	0.63	332.1	6.21	29.2	-	50.05	yes	clear; no odor
12:27	17.8	0.64	337.4	6.22	13.4	-	50.01	yes	clear; no odor
12:30	17.9	0.58	340.2	6.24	1.6	-	50.02	yes	clear; no odor
12:33	18.0	0.57	343.2	6.25	-3.4	-	50.01	yes	clear; no odor
12:36	18.0	0.59	344.1	6.25	-5.9	4.03	50.03	yes	clear; no odor
12:39									

Sample Description (turbidity, color, odor, sheen): colorless, little turbid, no odor, no sheen | Fe 2^+ (mg/L): 4.2

PUMP AND MATERIAL INFORMATION

Collection Method: ☐ Bailer ☑ Pump | Type: bladder
Material: ☑ Stainless Steel ☑ PVC ☐ Teflon ☑ Polyethylene ☐ Other ☑ Dedicated
Decon Procedure: ☑ Alconox Wash ☐ Tap Rinse ☑ DI Water ☐ Dedicated
☐ Other (describe sequence):

CONFIRMATION PARAMETERS (if applicable per Landau Field Manual)

☑ Applicable

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations
13:00	**18**	**0.64**	**359.3**	**6.27**	**-0.1**	**-**	**50.05**	

Scheduled Analysis (Circle/Bold Applicable)							Bottle Information	
							Number	Type
Volatiles:	8260	8260 SIM	8021	524	624		3	40 mL HCl pres. VOAs
Semivolatiles:	8270	8270 SIM	8011	625				
Petroleum Hydrocarbons:	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx SGC				
Total/Dissolved Metals:	6010	6020	200.7	**200.8**	7471	☑ Field Filtered	2	250 mL SO4 pres. clear poly
PCBs & Nitroaromatics:	8082	1668	608	8330				
Dioxin-Furans:	1613	8290						
PFAS:	1633	537.1	533	SOP				
Conventionals:	**300.0**	SM2450C	SM2450D	**SM5310C**	**RSK175**		1	250 mL NaOH pres. clear poly
Other:	**SM4500-NH3 G**		**SM 2320B**				2	250 mL clear poly

Duplicate or Parent Sample ID: ☐ MS/MSD
Comments:
Signature: Spencer Lo | Date: 07/10/24

// GROUNDWATER LOW-FLOW SAMPLE COLLECTION FORM

Project Name: SeaTac Development | Project Number: 2218001.010.022
Event: Quarterly Groundwater Sampling | Well ID: MW-12
Weather: 80s; sunny | Sample ID: MW-12- 240710
Landau Rep.: Spencer Lo | Date: 07/10/24 | Time: 13:55

WELL INFORMATION

Screened Interval: Top (ft): 52.00 | Bottom (ft): 67.00 | Well Secure? ☐ No ☑ Yes | Damaged? ☑ No ☐ Yes
DTW After Cap Opened (ft): | Time: | Describe:
Static DTW (ft): 55.72 | Time: 8:15 | Flow-Thru Cell Vol.: 200 mL | WQM No.: YSI #5
Begin Purge (Date/Time): 7/10/2024 13:12 | End Purge (Date/Time): 7/10/2024 13:54 | Gallons Purged: 2.8
Water Disposal: ☑ 55-gal drum ☐ Storage tank ☐ Ground ☐ Other:

PURGE DATA

Cell shading indicating purge stabilization is for informational purposes only.

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Purge Vol ≥1 flow-thru cell vol.	Comments/ Observations
Stabilization →	± 3%	± 10%	± 3%	± 0.1 units	± 10 mV	± 10%	± 0.00 ft	(Yes/No)	
13:15	17.1	0.97	136.9	5.91	45.5	-	56.21	yes	colorless; little turbid; no odor
13:18	17.1	0.43	197.7	6.33	25.6	-	56.24	yes	clear; no odor
13:21	16.9	0.30	219.5	6.49	17.0	-	56.20	yes	clear; no odor
13:24	17.0	0.27	273.4	6.60	6.5	-	56.25	yes	clear; no odor
13:27	16.7	0.23	292.2	6.68	-4.1	-	56.24	yes	clear; no odor
13:30	16.9	0.20	307	6.72	-7.0	-	56.22	yes	clear; no odor
13:33	16.8	0.19	315.4	6.74	-9.9	-	56.21	yes	clear; no odor
13:36	16.7	0.18	326.7	6.79	-13.4	-	56.23	yes	clear; no odor
13:39	16.7	0.19	343.5	6.88	-20.3	-	56.22	yes	clear; no odor
13:42	16.9	0.19	359.6	6.92	-25.2	-	56.21	yes	clear; no odor
13:45	17.0	0.19	371	6.95	-29.0	-	56.23	yes	clear; no odor
13:48	16.8	0.18	381.2	6.96	-33.4	-	56.23	yes	clear; no odor
13:51	16.7	0.17	385.3	6.97	-35.8	-	56.20	yes	clear; no odor
13:54	16.6	0.17	388.1	6.98	-39.1	3.29	56.21	yes	clear; no odor

Sample Description (turbidity, color, odor, sheen): colorless, little turbid, no odor, no sheen | **Fe 2^+ (mg/L):** 2.4

PUMP AND MATERIAL INFORMATION

Collection Method: ☐ Bailer ☑ Pump | Type: bladder
Material: ☑ Stainless Steel ☑ PVC ☐ Teflon ☑ Polyethylene ☐ Other ☑ Dedicated
Decon Procedure: ☑ Alconox Wash ☐ Tap Rinse ☑ DI Water ☐ Dedicated
☐ Other (describe sequence):

CONFIRMATION PARAMETERS (if applicable per Landau Field Manual)

☑ Applicable

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations
14:17	**17**	**0.17**	**400.9**	**7.05**	**-47.1**	**-**	**56.24**	**clear; little turbid; no odor**

Scheduled Analysis (Circle/Bold Applicable)							Bottle Information	
							Number	Type
Volatiles:	**8260D**	**8260D SIM**	8021	524	624		8	40 mL HCl pres. VOAs
Semivolatiles:	8270	8270 SIM	8011	625				
Petroleum Hydrocarbons:	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx SGC				
Total/Dissolved Metals:	6010	6020	200.7	**200.8**	7471	☑ Field Filtered	2	250 mL SO4 pres. clear poly
PCBs & Nitroaromatics:	8082	1668	608	8330				
Dioxin-Furans:	1613	8290						
PFAS:	1633	537.1	533	SOP				
Conventionals:	**300.0**	SM2450C	SM2450D	**SM5310C**	**RSK175**		1	250 mL NaOH pres. clear poly
Other:	**SM4500-NH3 G**		**SM 2320B**				2	250 mL clear poly

Duplicate or Parent Sample ID: ☐ MS/MSD
Comments:
Signature: Spencer Lo | Date: 07/10/24

// GROUNDWATER LOW-FLOW SAMPLE COLLECTION FORM

Project Name: SeaTac Development | Project Number: 2218001.010.022
Event: Quarterly Groundwater Sampling | Well ID: MW-16
Weather: 80s; sunny | Sample ID: MW-16- 240710
Landau Rep.: Spencer Lo | Date: 07/10/24 | Time: 10:41

WELL INFORMATION

Screened Interval: Top (ft): 64.00 | Bottom (ft): 74.00 | Well Secure? ☐ No ☑ Yes | Damaged? ☑ No ☐ Yes
DTW After Cap Opened (ft): | Time: | Describe:
Static DTW (ft): 68.66 | Time: 8:42 | Flow-Thru Cell Vol.: 200 mL | WQM No.: YSI #5
Begin Purge (Date/Time): 7/10/2024 10:04 | End Purge (Date/Time): 7/10/2024 10:40 | Gallons Purged: 2.4
Water Disposal: ☑ 55-gal drum ☐ Storage tank ☐ Ground ☐ Other:

PURGE DATA

Cell shading indicating purge stabilization is for informational purposes only.

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Purge Vol ≥1 flow-thru cell vol.	Comments/ Observations
Stabilization →	± 3%	± 10%	± 3%	± 0.1 units	± 10 mV	± 10%	± 0.00 ft	(Yes/No)	
10:07	14.7	7.24	431.1	6.25	141.1	-	68.74	yes	clear; no odor
10:10	14.4	3.62	546	6.17	144.8	-	68.71	yes	clear; no odor
10:13	14.5	2.86	550	6.11	143.3	-	68.74	yes	clear; no odor
10:16	14.5	2.54	550	6.07	153.2	-	68.73	yes	clear; no odor
10:19	14.5	2.36	549	6.03	148.2	-	68.72	yes	clear; no odor
10:22	14.5	2.05	548	5.99	142.3	-	68.74	yes	clear; no odor
10:25	14.4	1.76	545	5.97	139.0	-	68.73	yes	clear; no odor
10:28	14.5	1.55	546	5.98	134.4	-	68.75	yes	clear; no odor
10:31	14.5	1.49	541	5.96	131.5	-	68.73	yes	clear; no odor
10:34	14.6	1.20	541	5.93	129.6	-	68.73	yes	clear; no odor
10:37	14.6	1.19	539	5.92	128.3	-	68.74	yes	clear; no odor
10:40	14.5	1.18	539	5.91	126.5	3.99	68.76	yes	clear; no odor

Sample Description (turbidity, color, odor, sheen): clear, colorless, no odor, no sheen | Fe 2^+ (mg/L): <0.2

PUMP AND MATERIAL INFORMATION

Collection Method: ☐ Bailer ☑ Pump | Type: bladder
Material: ☑ Stainless Steel ☑ PVC ☐ Teflon ☑ Polyethylene ☐ Other ☑ Dedicated
Decon Procedure: ☑ Alconox Wash ☐ Tap Rinse ☑ DI Water ☐ Dedicated
☐ Other (describe sequence):

CONFIRMATION PARAMETERS (if applicable per Landau Field Manual)

☑ Applicable

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations
10:54	**14.7**	**1.01**	**546**	**5.92**	**117.3**	**-**	**68.75**	**clear; no odor**

Scheduled Analysis (Circle/Bold Applicable)							Bottle Information	
							Number	Type
Volatiles:	8260	8260 SIM	8021	524	624		3	40 mL HCl pres. VOAs
Semivolatiles:	8270	8270 SIM	8011	625				
Petroleum Hydrocarbons:	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx SGC				
Total/Dissolved Metals:	6010	6020	200.7	**200.8**	7471	☑ Field Filtered	2	250 mL SO4 pres. clear poly
PCBs & Nitroaromatics:	8082	1668	608	8330				
Dioxin-Furans:	1613	8290						
PFAS:	1633	537.1	533	SOP				
Conventionals:	**300.0**	SM2450C	SM2450D	**SM5310C**	**RSK175**		1	250 mL NaOH pres. clear poly
Other:	**SM4500-NH3 G**		**SM 2320B**				2	250 mL clear poly

Duplicate or Parent Sample ID: ☐ MS/MSD
Comments:
Signature: Spencer Lo | Date: 07/10/24

LANDAU ASSOCIATES

// GROUNDWATER LOW-FLOW SAMPLE COLLECTION FORM

Project Name: SeaTac Development
Project Number: 2218001.010.022
Event: Quarterly Groundwater Sampling
Well ID: MW-17A
Weather: 80s; sunny
Sample ID: MW-17A- 240710
Landau Rep.: Spencer Lo
Date: 07/10/24 Time: 9:37

WELL INFORMATION

Screened Interval: Top (ft): 80.00 Bottom (ft): 95.00
Well Secure? ☐ No ☑ Yes Damaged? ☑ No ☐ Yes
DTW After Cap Opened (ft): Time: Describe:
Static DTW (ft): 85.69 Time: 8:59 Flow-Thru Cell Vol.: 200 mL WQM No.: YSI #5
Begin Purge (Date/Time): 7/10/2024 9:09 End Purge (Date/Time): 7/10/2024 Gallons Purged: 1.9
Water Disposal: ☑ 55-gal drum ☐ Storage tank ☐ Ground ☐ Other:

PURGE DATA

Cell shading indicating purge stabilization is for informational purposes only.

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Purge Vol ≥1 flow-thru cell vol.	Comments/ Observations
Stabilization →	± 3%	± 10%	± 3%	± 0.1 units	± 10 mV	± 10%	± 0.00 ft	(Yes/No)	
9:12	15.5	6.08	210.8	6.38	141.9	-	85.80	yes	clear; no odor
9:15	14.7	3.47	178.6	6.06	136.8	-	85.77	yes	clear; no odor
9:18	14.6	2.85	182	6.00	154.0	-	85.76	yes	clear; no odor
9:21	14.6	2.47	186	5.99	132.0	-	86.77	yes	clear; no odor
9:24	14.6	2.27	190.3	5.98	123.2	-	86.77	yes	clear; no odor
9:27	14.5	2.02	194.1	5.99	122.5	-	86.75	yes	clear; no odor
9:30	14.5	1.84	197.5	5.99	119.3	-	86.77	yes	clear; no odor
9:33	14.4	1.79	199.1	5.99	118.3	-	86.77	yes	clear; no odor
9:36	14.5	1.70	200.6	6.00	117.6	5.76	86.79	yes	clear; no odor

Sample Description (turbidity, color, odor, sheen): clear, colorless, no odor, no sheen
Fe 2^{+} (mg/L): <0.2

PUMP AND MATERIAL INFORMATION

Collection Method: ☐ Bailer ☑ Pump Type: bladder
Material: ☑ Stainless Steel ☑ PVC ☐ Teflon ☑ Polyethylene ☐ Other ☑ Dedicated
Decon Procedure: ☑ Alconox Wash ☐ Tap Rinse ☑ DI Water ☐ Dedicated
☐ Other (describe sequence):

CONFIRMATION PARAMETERS (if applicable per Landau Field Manual)

☑ Applicable

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations
9:52	**14.8**	**1.59**	**207.4**	**6.01**	**117.9**	**-**	**86.77**	**clear; no odor**

Scheduled Analysis (Circle/Bold Applicable)							Bottle Information	
							Number	Type
Volatiles:	8260	8260 SIM	8021	524	624		3	40 mL HCl pres. VOAs
Semivolatiles:	8270	8270 SIM	8011	625				
Petroleum Hydrocarbons:	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx SGC				
Total/Dissolved Metals:	6010	6020	200.7	**200.8**	7471	☑ Field Filtered	2	250 mL SO4 pres. clear poly
PCBs & Nitroaromatics:	8082	1668	608	8330				
Dioxin-Furans:	1613	8290						
PFAS:	1633	537.1	533	SOP				
Conventionals:	**300.0**	SM2450C	SM2450D	**SM5310C**	**RSK175**		1	250 mL NaOH pres. clear poly
Other:	**SM4500-NH3 G**		**SM 2320B**				2	250 mL clear poly

Duplicate or Parent Sample ID: ☐ MS/MSD
Comments:
Signature: Spencer Lo Date: 07/10/24

LANDAU ASSOCIATES

// GROUNDWATER LOW-FLOW SAMPLE COLLECTION FORM

Project Name: SeaTac Development | Project Number: 2218001.010.022
Event: Quarterly Groundwater Sampling | Well ID: MW-19
Weather: 80s; sunny | Sample ID: MW-19- 240710
Landau Rep.: Spencer Lo | Date: 07/10/24 | Time: 11:36

WELL INFORMATION

Screened Interval: Top (ft): 43.00 | Bottom (ft): 58.00 | Well Secure? ☐ No ☑ Yes | Damaged? ☑ No ☐ Yes
DTW After Cap Opened (ft): | Time: | Describe:
Static DTW (ft): 47.55 | Time: 8:24 | Flow-Thru Cell Vol.: 200 mL | WQM No.: YSI #5
Begin Purge (Date/Time): 7/10/2024 11:14 | End Purge (Date/Time): 7/10/2024 | Gallons Purged: 1.4
Water Disposal: ☑ 55-gal drum ☐ Storage tank ☐ Ground ☐ Other:

PURGE DATA

Cell shading indicating purge stabilization is for informational purposes only.

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Purge Vol ≥1 flow-thru cell vol.	Comments/ Observations
Stabilization →	± 3%	± 10%	± 3%	± 0.1 units	± 10 mV	± 10%	± 0.00 ft	(Yes/No)	
11:17	15.9	7.41	183.7	6.69	114.2	-	47.58	yes	clear; no odor
11:20	15.2	1.43	181.4	6.55	110.8	-	47.55	yes	clear; no odor
11:23	15.5	0.89	183.2	6.53	105.5	-	47.58	yes	clear; no odor
11:26	15.2	0.69	184.7	6.53	100.6	-	47.60	yes	clear; no odor
11:29	15.4	0.62	184.8	6.54	95.9	-	47.57	yes	clear; no odor
11:32	15.5	0.60	185.1	6.55	93.4	-	47.58	yes	clear; no odor
11:35	15.5	0.58	185.9	6.55	89.5	7.8	47.58	yes	clear; no odor

Sample Description (turbidity, color, odor, sheen): clear, colorless, no odor, no sheen | Fe 2^+ (mg/L): <0.2

PUMP AND MATERIAL INFORMATION

Collection Method: ☐ Bailer ☑ Pump | Type: bladder
Material: ☑ Stainless Steel ☑ PVC ☐ Teflon ☑ Polyethylene ☐ Other ☑ Dedicated
Decon Procedure: ☑ Alconox Wash ☐ Tap Rinse ☑ DI Water ☐ Dedicated
☐ Other (describe sequence):

CONFIRMATION PARAMETERS (if applicable per Landau Field Manual)

☑ Applicable

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations
11:58	**15.7**	**0.42**	**190.7**	**6.59**	**79/4**	**-**	**47.6**	**clear; no odor**

Scheduled Analysis (Circle/Bold Applicable)							Bottle Information	
							Number	Type
Volatiles:	8260	8260 SIM	8021	524	624		3	40 mL HCl pres. VOAs
Semivolatiles:	8270	8270 SIM	8011	625				
Petroleum Hydrocarbons:	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx SGC				
Total/Dissolved Metals:	6010	6020	200.7	**200.8**	7471	☑ Field Filtered	2	250 mL SO4 pres. clear poly
PCBs & Nitroaromatics:	8082	1668	608	8330				
Dioxin-Furans:	1613	8290						
PFAS:	1633	537.1	533	SOP				
Conventionals:	**300.0**	SM2450C	SM2450D	**SM5310C**	**RSK175**		1	250 mL NaOH pres. clear poly
Other:	**SM4500-NH3 G**		**SM 2320B**				2	250 mL clear poly

Duplicate or Parent Sample ID: ☐ MS/MSD
Comments:
Signature: Spencer Lo | Date: 07/10/24

// GROUNDWATER LOW-FLOW SAMPLE COLLECTION FORM

Project Name: SeaTac Development Site | Project Number: 2218001.010.012
Event: Quarterly Groundwater Monitoring | Well ID: MW-12
Weather: 70s, sunny | Sample ID: MW-12- 240808
Landau Representative: SKL | Date: 08/08/24 | Time: 10:50

WELL INFORMATION

Screened Interval: Top (ft): 52.00 | Bottom (ft): 67.00 | Well Secure? ☐ No ☑ Yes | Damaged? ☑ No ☐ Yes
DTW After Cap Opened (ft): | Time: | Describe:
Static DTW (ft): 55.89 | Time: 9:36 | Flow-Thru Cell Vol.: 200 mL | WQM No.: YSI #4
Begin Purge (Date/Time): 8/8/2024 9:43 | End Purge (Date/Time): 8/8/2024 10:49 | Gallons Purged: 2.50
Water Disposal: ☑ 55-gal drum ☐ Storage tank ☐ Ground ☐ Other:

PURGE DATA

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Purge Vol ≥1 flow-thru cell vol.	Comments/ Observations
Stabilization →	± 3%	± 10%	± 3%	± 0.1 units	± 10 mV	± 10%	± 0.00 ft	(Yes/No)	
9:46	15.8	3.51	353.5	6.99	182.7	6.49	56.21	yes	
9:49	15.6	1.87	302	6.91	171.1	4.96	56.22	yes	
9:52	15.7	1.53	314.2	6.89	159.8	4.28	56.20	yes	
9:55	15.6	1.38	328.9	6.93	148.2	4.61	56.24	yes	
9:58	15.5	1.26	341.1	6.97	140.2	5.13	56.21	yes	
10:01	15.6	1.15	355.5	7.04	127.5	3.9	56.22	yes	
10:04	15.6	1.18	368.4	7.08	115.7	4.44	56.21	yes	
10:07	15.5	1.21	376.5	7.13	104.4	3.71	56.23	yes	
10:10	15.5	0.98	382.2	7.15	96	1.23	56.22	yes	
10:13	15.5	0.93	394	7.15	84.6	3.54	56.21	yes	
10:16	15.5	0.99	413.2	7.17	73	2.41	56.22	yes	
10:19	15.5	0.98	434.4	7.18	58.3	2.73	56.24	yes	
10:22	15.6	0.89	452.2	7.21	41.5	0.2	56.21	yes	
10:25	15.6	0.79	457.7	7.22	32.7	2.01	56.22	yes	
10:28	15.7	1.51	466.6	7.23	18.3	1.55	56.24	yes	
10:31	15.6	0.89	471.1	7.25	6.5	2.02	56.22	yes	
10:34	15.6	1.12	476.3	7.27	-6.3	0.21	56.21	yes	clear; faint petroleum-like odor
10:37	15.7	0.89	480.1	7.27	-17.4	2.58	56.21	yes	clear; faint petroleum-like odor
10:40	15.6	0.82	481.2	7.27	-22.7	0.19	56.22	yes	clear; faint petroleum-like odor
10:43	15.6	0.81	483.5	7.30	-31.1	0.22	56.23	yes	clear; faint petroleum-like odor
10:46	15.6	0.79	485.1	7.32	-36.2	1.71	56.22	yes	clear; faint petroleum-like odor
10:49	15.6	0.76	486.3	7.33	-40.9	2.24	56.21	yes	clear; faint petroleum-like odor

Sample Description (turbidity, color, odor, sheen): clear, colorless, faint petroleum-like odor, no sheen | **Fe 2^+ (mg/L):** N/A

PUMP AND MATERIAL INFORMATION

Collection Method: ☐ Bailer ☑ Pump | Type: bladder pump
Material: ☑ Stainless Steel ☑ PVC ☐ Teflon ☑ Polyethylene ☐ Other ☐ Dedicated
Decon Procedure: ☑ Alconox Wash ☐ Tap Rinse ☑ DI Water ☐ Dedicated
☐ Other (describe sequence):

CONFIRMATION PARAMETERS (if applicable per Landau Field Manual)

☑ Applicable

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations
10:58	**15.8**	**1.01**	**491.1**	**7.34**	**-55.2**	**2.05**	**56.21**	**clear; faint petroleum-like odor**

Scheduled Analysis (Circle/Bold Applicable)							Bottle Information	
							Number	Type
Volatiles:	**8260**	8260 SIM	8021	524	624		5	40 mL HCl pres. VOAs
Semivolatiles:	8270	8270 SIM	8011	625				
Petroleum Hydrocarbons:	NWTPH-HCID	**NWTPH-Gx**	NWTPH-Dx	NWTPH-Dx SGC				
Total/Dissolved Metals:	6010	6020	200.7	200.8	7471	☐ Field Filtered		
PCBs & Nitroaromatics:	8082	1668	608	8330				
Dioxin-Furans:	1613	8290						
PFAS:	1633	537.1	533	SOP				
Conventionals:	300.0	SM2450C	SM2450D	SM5310C	RSK175			
Other:	SM4500-NH3 G							

Duplicate or Parent Sample ID: | ☐ MS/MSD
Comments:
Signature: SKL | Date: 08/08/24

APPENDIX B

Data Tables and Trend Graphs

Table B-1
Summary of Groundwater Sampling Results - Well MW-07
SeaTac Development Site
SeaTac, Washington

Date Sampled	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Field Parameters					Analytical Data											
				pH	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	GRO (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	N-hexane (µg/L)	Naphthalene (µg/L)	DRO (mg/L)	ORO (mg/L)	DRO after Silica Gel Cleanup (mg/L)	ORO after Silica Gel Cleanup (mg/L)
MTCA Method A Groundwater Cleanup Levels[a]									**0.8[b]/1.0[c]**	**5.0**	**1,000**	**700**	**1,000**	**0.01**	**480[d]**	**160**	**0.5**	**0.5**	**0.5**	**0.5**
01/05/01	358.70	NM	NM	NM	NM	NM	NM	NM	**80**	**470**	**7,700**	**2,000**	**11,200**	NA	NA	NA	< 0.25	< 0.50	NA	NA
08/16/07	358.70	NM	NM	NM	NM	NM	NM	NM	**68**	**500**	**3,200**	**1,600**	**8,690**	NA	NA	NA	NA	NA	NA	NA
12/07/09	358.70	49.02	309.68	6.89	10.90	347	2.83	NM	**46**	**520**	**5,600**	**1,300**	**6,800**	**0.03**	220	**420**	NA	NA	NA	NA
03/18/10	358.70	48.69	310.01	6.61	13.30	354	1.41	5.18	**26**	**230**	**1,100**	360	**4,630**	**0.01**	160	**210**	NS	NS	NA	NA
02/13/14	358.69	47.72	310.97	6.56	14.3	131	0.35	3.87	**29**	**25**	110	180	**2,022**	< 3.8[e]	190	**220**	**11 J**	< 0.20	NA	NA
05/29/14	358.69	47.65	311.04	6.65	16.4	379	0.13	2.84	**27**	**14**	80	190	**1,811**	< 1.5[e]	140	**210 B**	**11 J**	< 0.20	NA	NA
09/11/14	358.69	47.95	310.74	6.73	16.5	373	0.35	2.28	**36**	**17**	81	260	**2,110**	< 0.028[e]	280	**300 B J**	**11**	0.41 J	NA	NA
12/04/14	358.69	47.95	310.74	6.70	15.7	333	0.20	2.95	**26**	**21**	66	200	**1,507**	< 0.07[e]	170	**180**	**11 J**	0.32 J	NA	NA
06/18/15	358.69	48.01	310.68	6.64	16.1	371	0.25	1.57	**15 J**	**6.4**	28 J	110 J	533 J	< 0.07[e]	93 J	96 J	**5.4**	0.24 J	NA	NA
12/03/15	358.69	49.96	308.73	6.44	15.9	526	0.14	2.91	**23**	**77**	**1,200**	270	**1,550**	<0.020[e]	160	69	**4.9 J**	< 0.20	NA	NA
05/04/16	358.69	49.05	309.64	6.68	16.0	640	1.02	4.57	**12**	**30**	500	170	970	<0.20[e]	150	68 J	**6.5 J**	0.30 J	NA	NA
11/16/16	358.69	48.50	310.19	6.54	15.9	411	1.39	3.95	**8.3**	4.3	9.5	40	85	<0.20[e]	11 J	37	**2.4**	<0.20	NA	NA
05/03/17	358.69	48.13	310.56	6.38	16.2	188	1.33	3.78	**2.9**	1.8	0.46	14	21	<0.20[e]	1.9	32	**1.4**	0.20	NA	NA
11/14/17	358.69	47.15	311.54	6.39	15.1	278	0.98	NM	**2.2**	0.70	0.42	1.1	5.9	<0.20[e]	0.3	11	**1.6**	0.44	NA	NA
01/18/18	358.69	46.75	311.94	6.21	14.7	270	0.23	2.15	**1.9**	1.0	0.67	2.0 J	7.3 J	<0.20[e]	0.5	10	**1.5**	<0.20	NA	NA
03/09/18	358.69	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/16/18	358.69	46.10	312.59	6.15	15.2	248	0.25	2.25	**1.8**	0.41	0.35	1.1	3	<0.01	<0.20	6.1	**0.78**	<0.20	NA	NA
11/08/18	358.69	46.32	312.37	6.67	14.7	220	0.29	1.60	**1.4**	0.73	0.29	0.78	1.6	<0.01	0.42	4.0	**0.74**	<0.20	NA	NA
07/26/19	358.69	46.74	311.95	6.45	17.4	281	0.43	NM	0.73	0.30	0.27	0.75	1.1	<0.0030	0.29	1.6	0.17	<0.20	<0.10	<0.20
01/29/20	358.69	48.12	310.57	6.72	14.6	201	0.86	NM	0.75	0.39	8.1	2.3	11	<0.02[e]	7.0	5.1	NA	NA	<0.081	<0.16
07/22/20	358.69	48.43	310.26	6.03	16.1	139	0.29	NM	0.80	<0.20	<1.0	2.2	12	<0.010	<2.0	2.9	NA	NA	NA	NA
10/19/20	358.69	48.79	309.90	6.32	15.6	205	1.73	6.59	**1.74**	0.84	2.50	9.69	15	<0.020[e]	<0.20	5.8	NA	NA	NA	NA
01/18/21	358.69	49.03	309.66	6.32	14.1	266	1.40	2.73	**3.55**	2.66	33	41	200	<0.50[e]	19	16	NA	NA	NA	NA
04/26/21	358.69	48.65	310.04	6.60	15.9	277	0.59	4.54	**1.63**	3.77	3.23	14	26	<0.01	5.3 J	7.8	NA	NA	NA	NA
07/26/21	358.69	48.78	309.91	6.53	16.1	237	0.26	2.66	**2.35**	3.17	7.36	23	77	<0.04[e]	8.43	14	NA	NA	NA	NA
01/24/22	358.69	48.52	310.17	6.55	14.7	247	0.67	45.2	**0.83**	1.95	0.93 J	3.89	4.65	<0.046[e]	<2.5	3.12	NA	NA	NA	NA
07/25/22	358.69	47.61	311.08	5.97	16.6	210	2.29	10.7	0.12	0.36	<1.0	<0.50	<1.50	<0.022[e]	<2.0	<2.0	NA	NA	NA	NA
10/25/22	358.69	47.95	310.74	5.65	15.3	179	0.68	3.7	0.26	0.40	<1.0	0.61	<1.5	<0.022e	<2.0	<2.0	NA	NA	NA	NA
01/30/23	358.69	48.11	310.58	6.43	14.6	172	1.30	2.11	0.23	0.25	<1.0	<0.50	<1.5	<0.025e	<2.0	<2.0	NA	NA	NA	NA
04/11/23	358.69	48.08	310.61	6.37	15.0	162	0.38	1.63	0.27	0.45	<1.0	1.03	2.8	<0.250[e]	<2.0	<2.0	NA	NA	NA	NA
08/01/23	358.69	48.55	310.14	6.46	15.3	206	0.61	1.2	0.725	0.58	1.38	2.94	6.78	<0.0500[e]	<10.0	<4.00	NA	NA	NA	NA

Table B-1
Summary of Groundwater Sampling Results - Well MW-07
SeaTac Development Site
SeaTac, Washington

Notes:

Values in bold and **red** exceed MTCA Method A Cleanup Levels.

J = Laboratory estimated value

[a] Ecology's Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC), Tables 720-1, Method A Cleanup Levels for Groundwater.

[b] When benzene is present.

[c] When benzene is not present.

[d] Method B cleanup level used because Method A cleanup level is not established. Standard formula values, direct contact Method B groundwater cleanup levels as published on Ecology's Cleanup Level and Risk Calculatio (CLARC) on-line database (July 2022).

[e] The analyte was not detected at or above the method detection limit (MDL); however, the MDL exceeded the cleanup level.

Abbreviaitons and Acronyms:

°C = d Celsius
µg/L = micrograms per liter
µmhos/cm = micromhos per centimeter
DRO = diesel-range organics
EDB = 1,2-dibromoethane
GRO = gasoline-range organics
mg/L = milligrams per liter
NA = not analyzed
NM = not measured
NS = not sampled
NTU = nephelometric turbidity unit
ORO = oil-range organics

Table B-2
Summary of Groundwater Sampling Results - Well MW-09
SeaTac Development Site
SeaTac, Washington

Date Sampled	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Field Parameters					Analytical Data												
				pH	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	GRO (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	N-hexane (µg/L)	Naphthalene (µg/L)	DRO (mg/L)	ORO (mg/L)	DRO after Silica Gel Cleanup (mg/L)	ORO after Silica Gel Cleanup (mg/L)
MTCA Method A Groundwater Cleanup Levels[a]									**0.8[b]/1.0[c]**	**5.0**	**1,000**	**700**	**1,000**	**0.01**	**480[d]**	**160**	**0.5**	**0.5**	**0.5**	**0.5**
01/05/01	362.14	NM	NM	NM	NM	NM	NM	NM	**90**	**1,900**	**1,200**	**1,800**	**9,700**	NA	NA	NA	< 0.25	< 0.50	NA	NA
08/16/07	362.14	NM	NM	NM	NM	NM	NM	NM	**34**	**280**	230	**750**	**3,270**	NA	NA	NA	NA	NA	NA	NA
05/19/09	362.14	52.25	309.89	6.17	15.6	290	1.86	2.86	**37**	**240**	220	**810**	**2,910**	NA	NA	NA	NA	NA	NA	NA
12/07/09	362.14	52.67	309.47	6.52	10.7	306	0.43	NM	**19**	**190**	33	**730**	**1,927**	**0.01**	83	**260**	NA	NA	NA	NA
03/19/10	362.14	52.30	309.84	6.19	14.2	294	0.13	7.18	**16**	**170**	65	400	**1,434**	**0.016**	100	**160**	NS	NS	NA	NA
02/12/14	362.13	51.45	310.68	6.49	12.6	99.5	0.28	3.10	**7.5**	**30**	8.1	150	98	< 0.080[e]	16	120	**1.6 J**	< 0.20	NA	NA
05/29/14	362.13	51.41	310.72	6.44	15.0	295	0.14	1.01	**7.8**	**32**	9.4	170	112	< 0.37[e]	5.6	92 B	**2.3 J**	< 0.20	NA	NA
09/10/14	362.13	NM	NM	6.49	15.7	310	0.20	3.85	**5.6**	**17**	4.6	100	47	< 0.01	< 0.20	74	**2.8**	< 0.20	NA	NA
12/03/14	362.13	51.68	310.45	6.47	13.6	307	0.18	2.37	**4.1**	**14**	2.8	76	8.8	< 0.07[e]	< 0.20	44	**1.9**	< 0.20	NA	NA
06/17/15	362.13	51.67	310.46	6.48	15.1	331	0.18	0.75	**1.7**	**7.2**	1.3	40	1.6	< 0.07[e]	< 0.20	18	**1.5**	< 0.20	NA	NA
12/03/15	362.13	NM	NM	6.37	14.1	477	0.96	3.91	**2.2 J**	**8.4**	1.5 J	73	1.5 J	< 0.07[e]	< 0.20	5.7	**1.0 J**	< 0.20	NA	NA
05/03/16	362.13	NM	NM	6.51	18.3	221	4.68	1.08	<0.10	0.15 J	<0.20	0.71	<0.40	<0.20[e]	<0.20	<0.50	0.22 J	<0.20	NA	NA
11/15/16	362.13	52.15	309.98	5.94	14.5	234	1.41	0.80	<0.10	0.23	0.23	0.56	0.32	<0.20[e]	<0.20	<0.50	0.20	<0.20	NA	NA
05/03/17	362.13	NM	NM	5.94	15.5	165	3.09	1.43	<0.10	0.23	0.050 J	0.42	<0.40	<0.20[e]	<0.20	<0.50	0.28	<0.20	NA	NA
11/14/17	362.13	50.74	311.39	5.98	13.9	211	2.14	NM	<0.10	<0.20	<0.20	<0.20	<0.40	<0.020[e]	<0.20	<0.50	0.22	<0.20	NA	NA
01/16/18	362.13	50.33	311.80	5.94	13.6	202	1.10	1.02	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20[e]	<0.20	<0.50	0.26	<0.20	NA	NA
03/09/18	362.13	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/15/18	362.13	49.68	312.45	5.86	15.0	193	0.67	0.61	<0.10	0.20	<0.20	<0.20	<0.40	<0.010	<0.20	<0.50	0.34	<0.20	NA	NA
11/07/18	362.13	49.86	312.27	6.28	13.8	203	0.32	0.25	<0.10	<0.20	<0.20	<0.20	<0.40	<0.010	<0.20	<0.50	0.28	<0.20	NA	NA
07/29/19	362.13	50.33	311.80	6.32	15.5	285	0.50	NM	<0.10	0.20	<0.20	<0.20	<0.60	<0.0030	<0.20	<0.50	0.11	<0.20	<0.10	<0.20
01/30/20	362.13	51.45	310.68	6.40	12.7	249	0.77	NM	<0.10	0.54	<0.50	<0.25	<0.75	<0.20[e]	<1.0	<1.0	NA	NA	NA	NA
01/25/22	362.13	52.05	310.08	7.07	12.5	285	4.23	6.51	<0.05	<0.10	<0.50	<0.25	<0.75	<0.010	<2.50	<1.0	NA	NA	NA	NA
07/25/22	362.13	51.19	310.94	5.67	18.1	175	3.15	1.25	<0.10	<0.20	<1.0	<0.50	<1.50	<0.010	<2.0	<2.0	NA	NA	NA	NA
10/25/22	362.13	51.49	310.64	5.64	14.0	157	2.76	1.46	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
01/31/23	362.13	51.65	310.48	6.35	12.1	170	3.00	2.75	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
04/11/23	362.13	51.57	310.56	6.34	13.3	104	4.95	38.90	<0.10	<0.20	<1.0	<0.50	<1.5	<0.250[e]	<2.0	<2.0	NA	NA	NA	NA
08/01/23	362.13	52.24	309.89	6.12	16.2	177	1.42	0.12	<0.1	<0.250	<1.00	<0.500	<1.50	<0.0100	<10.0	<4.00	NA	NA	NA	NA

Table B-2
Summary of Groundwater Sampling Results - Well MW-09
SeaTac Development Site
SeaTac, Washington

Notes:

Values in bold and **red** exceed MTCA Method A Cleanup Levels.

J = Laboratory estimated value

[a] Ecology's Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC), Tables 720-1, Method A Cleanup Levels for Groundwater.

[b] When benzene is present.

[c] When benzene is not present.

[d] Method B cleanup level used because Method A cleanup level is not established. Standard formula values, direct contact Method B groundwater cleanup levels as published on Ecology's Cleanup Level and Risk Calculatio (CLARC) on-line database (July 2022).

[e] The analyte was not detected at or above the method detection limit (MDL); however, the MDL exceeded the cleanup level.

Abbreviations and Acronyms:

°C = degrees Celsius

µg/L = micrograms per liter

µmhos/cm = micromhos per centimeter

DRO = diesel-range organics

EDB = 1,2-dibromoethane

GRO = gasoline-range organics

mg/L = milligrams per liter

NM = not measured

NS = not sampled

ORO = oil-range organics

Table B-3
Summary of Groundwater Sampling Results - Well MW-12
SeaTac Development Site
SeaTac, Washington

Date Sampled	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Field Parameters					Analytical Data											
				pH	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	GRO (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	N-hexane (µg/L)	Naphthalene (µg/L)	DRO (mg/L)	ORO (mg/L)	DRO after Silica Gel Cleanup (mg/L)	ORO after Silica Gel Cleanup (mg/L)
MTCA Method A Groundwater Cleanup Levels[a]									**0.8[b]/1.0[c]**	**5.0**	**1,000**	**700**	**1,000**	**0.01**	**480[d]**	**160**	**0.5**	**0.5**	**0.5**	**0.5**
08/16/07	364.88	NM	NM	NM	NM	NM	NM	NM	**92**	**710**	**7,600**	**1,800**	**11,000**	NA	NA	NA	NA	NA	NA	NA
05/21/09	364.88	54.99	309.87	6.43	17.8	416	0.19	33.7	**110**	**1,600**	**11,000**	**2,100**	**10,000**	**0.70**	< 500[e]	**580**	NA	NA	NA	NA
12/07/09	364.88	55.29	309.59	7.58	12.0	452	0.06	NM	**38**	**390**	**2,600**	**1,200**	**4,990**	**0.21**	110	**540**	NA	NA	NA	NA
03/15/10	364.88	54.99	309.89	6.38	14.5	472	0.03	40.8	**36**	**230**	**2,400**	**1,300**	**5,140**	**0.16**	210	**520**	NS	NS	NS	NS
02/13/14	364.83	55.02	309.81	7.76	14.1	125	10.50	3.43	**8.6**	**79**	410	79	970	< 3.8[e]	< 10	25	**1.1 J**	< 0.20	NA	NA
05/29/14	364.83	51.58	313.25	7.87	16.7	252	11.77	5.99	0.12	2.0	4.3	1.6	4.2	< 0.070[e]	< 0.20	< 0.50	0.34 J	< 0.20	NA	NA
09/11/14	364.83	54.87	309.96	8.04	18.1	255	11.80	38.8	0.11	2.5	2.6	1.5	5.3	< 0.010	0.78	0.53 B J	0.35	< 0.20	NA	NA
12/04/14	364.83	54.87	309.96	8.04	15.1	258	11.51	153	< 0.10	< 0.25	< 0.25	0.73	6.0	< 0.070[e]	0.18 J	0.68	0.20	< 0.20	NA	NA
06/18/15	364.83	NM	NM	8.09	16.3	208	9.90	2.44	< 0.25	< 0.20	< 0.20	0.10 J	2.1	< 0.070[e]	0.26	< 0.50	0.45	< 0.20	NA	NA
12/03/15	364.83	56.74	308.09	NM	NM	NM	NM	NM	< 0.25	< 0.20	< 0.20	< 0.20	<0.40	<0.020[e]	< 0.20	< 0.50	0.29	< 0.20	NA	NA
05/04/16	364.83	55.53	309.30	7.68	15.1	226	7.72	3.48	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20[e]	<0.20	<0.50	0.18 J	<0.20	NA	NA
11/16/16	364.83	55.20	309.63	7.84	14.9	199	8.45	13.4	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20[e]	<0.20	<0.50	0.16	<0.20	NA	NA
05/03/17	364.83	59.02	305.81	7.53	15.9	80	8.01	4.96	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20[e]	<0.20	<0.50	**0.89**	<0.22	NA	NA
11/15/17	364.83	53.37	311.46	7.69	14.9	301	0.99	18.9	**2.23**	1.75	17.8	10.6	113	<0.20[e]	29	33	**1.0**	0.30	NA	NA
01/18/18	364.83	53.13	311.70	7.29	14.4	314	0.35	30.1	**2.20**	1.72	11.5	25.6	90	<0.20[e]	29	30	**1.6**	<0.20	NA	NA
03/09/18	364.83	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/16/18	364.83	52.31	312.52	7.06	15.3	374	0.27	3.02	**2.82**	**17**	2.05	23.8	43.0	<0.010	26	19	**2.9**	<0.20	NA	NA
11/08/18	364.83	52.55	312.28	7.98	14.7	354	0.36	6.60	**3.61**	**26**	2.48	24.3	25.0	<0.010	48 J	17	<0.10	<0.20	NA	NA
07/29/19	364.83	53.01	311.82	7.28	16.0	455	0.89	NM	**2.29**	**8.2**	2.90	16.0	25.0	<0.0030	8.4	14	**1.85**	<0.20	<0.10	<0.20
01/29/20	364.83	63.90	300.93	7.18	12.6	10	13.47	NM	<0.10	<0.10	<0.50	<0.25	<0.75	<0.010	<1.0	<1.0	NA	NA	<0.078	<0.16
07/22/20	364.83	54.60	310.23	6.36	15.2	185	0.24	NM	<0.10	<0.20	<1.0	<0.50	<1.50	<0.010	<2.0	<2.0	NA	NA	NA	NA
10/19/20	364.83	54.97	309.86	6.85	15.5	129	1.58	2.87	0.13	<0.20	<1.0	<0.50	6.16	<0.010	2.05	<4.0	NA	NA	NA	NA
01/18/21	364.83	55.23	309.60	6.28	14.3	68	0.48	5.04	0.48	0.37	1.97	3.56	40.3	<0.010	9.68	9.24	NA	NA	NA	NA
04/26/21	364.83	54.85	309.98	7.01	15.1	363	0.28	3.25	**0.97**	0.61	8.84	42.9	66.8	<0.010	21 J	22.4	NA	NA	NA	NA
07/26/21	364.83	55.05	309.78	7.23	15.8	278	0.24	1.01	**3.57**	1.95	13.9	114.0	378	<0.020[e]	58	72.2	NA	NA	NA	NA
01/24/22	364.83	54.73	310.10	7.20	14.4	819	0.20	4.75	0.31	4.21	1.70	11.6	28.3	<0.020[e]	<2.5	3.22	NA	NA	NA	NA
07/26/22	364.83	53.89	310.94	6.57	16.1	251	2.19	1.52	0.51	1.03	4.59	28.7	62.9	<0.010	2.6	5.80	NA	NA	NA	NA
10/25/22	364.83	54.23	310.60	5.77	13.1	17	8.47	8.09	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
01/31/23	364.83	54.38	310.45	7.13	14.1	188	0.49	0.86	0.34	3.30	2.25	14.9	27.2	<0.020e	<2.0	2.86	NA	NA	NA	NA
04/11/23	364.83	54.09	310.74	7.29	14.5	148	0.40	0.74	**0.9[f]**	**8.04[f]**	13.00	30.3	74.5	<0.250[e]	5.83	5.15	NA	NA	NA	NA
07/31/23	364.83	54.82	310.01	7.41	16.1	248	0.53	1.58	**1.05 J**	3.26 J	4.96 J	44.4	143 J	<0.0100	6.06 J	8.28 J	NA	NA	NA	NA
10/24/23	364.83	55.43	309.40	6.68	15.2	72.1	1.25	4.62	<0.1	0.240	<1.00	<0.500	<1.50	<0.0100	<10.0	<5.00	NA	NA	NA	NA

Table B-3
Summary of Groundwater Sampling Results - Well MW-12
SeaTac Development Site
SeaTac, Washington

Date Sampled	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Field Parameters					Analytical Data												
				pH	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	GRO (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	N-hexane (µg/L)	Naphthalene (µg/L)	DRO (mg/L)	ORO (mg/L)	DRO after Silica Gel Cleanup (mg/L)	ORO after Silica Gel Cleanup (mg/L)
MTCA Method A Groundwater Cleanup Levels[a]									**0.8[b]/1.0[c]**	**5.0**	**1,000**	**700**	**1,000**	**0.01**	**480[d]**	**160**	**0.5**	**0.5**	**0.5**	**0.5**
01/17/24	364.83	55.40	309.43	6.89	11.9	77.6	2.41	26.19	0.5	0.52	1.11	10.1	34.3	<0.0100	5.30 J	3.79 J	NA	NA	NA	NA
04/04/24	364.83	55.13	309.70	5.47	13.5	63.6	5.89	13.21	<0.1	<0.200	<1.00	<0.500	<1.50	<0.0200	<10.0	<5.00	NA	NA	NA	NA
07/10/24	364.83	55.72	309.11	6.98	16.6	388.1	0.17	3.29	**4.13**	**11.6**	31.2	194	396	<0.0900[g]	38.3	36.3	NA	NA	NA	NA
08/08/24	364.83	55.89	308.94	7.33	15.6	486.3	0.76	2.24	**5.2**	**10.6**	37.4	198	468	NA	NA	NA	NA	NA	NA	NA

Notes:

Values in bold and **red** exceed MTCA Method A Cleanup Levels.

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

[a] Ecology's Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC), Tables 720-1, Method A Cleanup Levels for Groundwater.

[b] When benzene is present.

[c] When benzene is not present.

[d] Method B cleanup level used because Method A cleanup level is not established. Standard formula values, direct contact Method B groundwater cleanup levels as published on Ecology's Cleanup Level and Risk Calculation (CLARC) on-line database (May 2024).

[e] The analyte was not detected at or above the method detection limit (MDL); however, the MDL exceeded the cleanup level.

[f] Concentration, which is from a duplicate sample, exceeded the concentration in the designated sample from MW-12.

[g] The analyte was not detected at or above the method detection limit (MDL); however, the MDL exceeded the cleanup level.

Abbreviations and Acronyms:

°C = degrees Celsius
µg/L = micrograms per liter
µmhos/cm = micromhos per centimete
mg/L = milligrams per liter
EDB = 1,2-dibromoethane
GRO = gasoline-range organics
DRO = diesel-range organics
ORO = oil-range organics
NA = not analyzed
NM = not measured
NS = not sampled
NTU = nephelometric turbidity unit

Table B-4
Summary of Groundwater Sampling Results - Well MW-13
SeaTac Development Site
SeaTac, Washington

Date Sampled	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Field Parameters					Analytical Data												
				pH	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	GRO (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	N-hexane (µg/L)	Naphthalene (µg/L)	DRO (mg/L)	ORO (mg/L)	DRO after Silica Gel Cleanup (mg/L)	ORO after Silica Gel Cleanup (mg/L)
MTCA Method A Groundwater Cleanup Levels[a]									**0.8[b]/1.0[c]**	**5.0**	**1,000**	**700**	**1,000**	**0.01**	**480[d]**	**160**	**0.5**	**0.5**	**0.5**	**0.5**
08/16/07	365.42	NM	NM	NM	NM	NM	NM	NM	**92**	**180**	**5,600**	**2,100**	**12,600**	NA	NA	NA	NA	NA	NA	NA
05/20/09	365.42	55.51	309.91	6.29	18.8	474	1.13	4.8	**76**	**51**	**1,400**	**2,100**	**11,000**	**0.067**	< 250	**640**	NA	NA	NA	NA
12/07/09	365.42	55.83	309.59	6.44	12.3	429	0.18	NM	**31**	**20**	310	870	**4,570**	**0.054**	100	**500**	NA	NA	NA	NA
03/19/10	365.42	55.66	309.76	6.28	12.8	271	0.16	72.1	**33**	**14**	230	**890**	**4,500**	**0.029**	130	**410**	NS	NS	NS	NS
02/12/14	365.42	54.35	311.07	6.57	13.2	73.3	1.41	4.28	**14**	< 0.25	3.9	240	**2,070**	< 0.080[e]	< 0.20	33	**1.4 J**	< 0.20	NA	NA
05/29/14	365.42	55.62	309.80	6.84	14.7	182	10.59	4.24	0.14	< 0.25	< 0.25	0.85	19	< 0.070[e]	0.11 J	< 0.50	0.32	< 0.20	NA	NA
09/10/14	365.42	54.86	310.56	7.06	14.9	137	11.06	2.41	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.01	< 0.20	< 0.50	0.29	< 0.20	NA	NA
12/04/14	365.42	54.86	310.56	7.06	13.9	163	10.10	2.32	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.070[e]	< 0.20	< 0.50	0.31	< 0.20	NA	NA
06/18/15	365.42	54.70	310.72	7.13	14.7	174	10.71	1.32	< 0.25	< 0.20	< 0.20	< 0.20	< 0.40	< 0.070[e]	< 0.20	0.61	0.27	< 0.20	NA	NA
12/02/15	365.42	56.43	308.99	7.27	14.2	164	10.20	0.90	< 0.25	< 0.20	< 0.20	0.23	1.1 J	<0.020[e]	< 0.20	< 0.50	0.26	< 0.20	NA	NA
05/03/16	365.42	56.30	309.12	7.79	15.8	194	14.18	1.14	<0.10	<0.20	<0.20	<0.20	0.44	<0.20[e]	<0.20	<0.50	0.12 J	<0.20	NA	NA
11/15/16	365.42	55.81	309.61	7.25	14.1	195	10.64	0.73	<0.10	<0.20	<0.20	<0.20	0.46	<0.20[e]	<0.20	<0.50	0.19	<0.20	NA	NA
05/03/17	365.42	55.14	310.28	7.03	14.5	116	10.71	1.45	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20[e]	<0.20	<0.50	0.18	<0.20	NA	NA
11/14/17	365.42	54.05	311.37	6.75	13.6	136	1.72	NM	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20[e]	<0.20	<0.50	0.13	<0.20	NA	NA
01/16/18	365.42	53.62	311.80	6.93	13.4	159	0.85	2.02	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20[e]	<0.20	<0.50	<0.10	<0.20	NA	NA
03/09/18	365.42	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/15/18	365.42	52.96	312.46	6.43	14.1	120	1.87	1.14	<0.10	<0.20	<0.20	<0.20	<0.40	<0.010	<0.20	<0.50	<0.10	<0.20	NA	NA
11/07/18	365.42	53.16	312.26	7.10	13.6	141	1.00	0.64	<0.10	<0.20	<0.20	<0.20	<0.40	<0.010	<0.20	<0.50	<0.10	<0.20	NA	NA
07/29/19	365.42	53.59	311.83	6.83	17.0	212	1.85	NM	<0.10	0.070 J	<0.20	<0.20	<0.60	<0.0030	<0.20	<0.50	<0.10	<0.20	<0.10	<0.20
01/30/20	365.42	54.92	310.50	7.10	12.9	215	3.28	NM	<0.10	0.15 J	<0.50	<0.25	<0.75	<0.010	<1.0	<1.0	NA	NA	NA	NA
07/22/20	365.42	55.19	310.23	5.75	14.4	238	0.99	NM	**0.90**	0.34	<1.0	0.74	<1.50	<0.20[e]	5.8	4.6	NA	NA	NA	NA
10/19/20	365.42	55.67	309.75	6.72	14.1	274	2.04	2.17	0.53	0.21	<1.0	<0.50	<1.50	<0.20[e]	<2.0	<2.0	NA	NA	NA	NA
01/18/21	365.42	55.85	309.57	6.56	13.3	277	1.31	0.49	0.53	0.22	1.23	6.58	18.1	<0.010	<2.0	4.7	NA	NA	NA	NA
04/26/21	365.42	55.44	309.98	6.85	14.3	217	6.18	1.69	<0.10	<0.20	<1.0	<0.50	3.73	<0.010	<2.0	<2.0	NA	NA	NA	NA
07/26/21	365.42	55.65	309.77	6.92	14.7	204	5.01	0.68	<0.05	<0.10	<0.50	<0.25	<0.75	<0.020[e]	<2.0	<2.0	NA	NA	NA	NA
01/25/22	365.42	55.30	310.12	6.60	13.5	271	2.91	0.51	<0.05	<0.10	<0.50	<0.25	<0.75	<0.010	<2.5	<1.0	NA	NA	NA	NA
07/26/22	365.42	54.47	310.95	6.18	15.1	335	3.58	3.23	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
10/25/22	365.42	54.82	310.60	6.07	14.1	287	1.81	4.04	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
01/31/23	365.42	54.99	310.43	6.58	13.4	225	4.04	1.15	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
04/11/23	365.42	54.90	310.52	6.43	13.6	193	3.43	0.54	<0.10	<0.20	<1.0	<0.50	<1.5	<0.250[e]	<2.0	<2.0	NA	NA	NA	NA
08/01/23	365.42	55.43	309.99	6.62	14.4	250	1.72	0.01	0.27	0.190 J	<1.00	<0.500	<1.50	<0.360[e]	<10.0	<4.00	NA	NA	NA	NA

Table B-4
Summary of Groundwater Sampling Results - Well MW-13
SeaTac Development Site
SeaTac, Washington

Notes:

Values in bold and **red** exceed MTCA Method A Cleanup Levels.

J = Laboratory estimated value

[a] Ecology's Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC), Tables 720-1, Method A Cleanup Levels for Groundwater.

[b] When benzene is present.

[c] When benzene is not present.

[d] Method B cleanup level used because Method A cleanup level is not established. Standard formula values, direct contact Method B groundwater cleanup levels as published on Ecology's Cleanup Level and Risk Calculatior (CLARC) on-line database (July 2022).

[e] The analyte was not detected at or above the method detection limit (MDL); however, the MDL exceeded the cleanup level.

Abbreviations and Acronyms:

°C = degrees Celsius

µg/L = micrograms per liter

µmhos/cm = micromhos per centimeter

EDB = 1,2-dibromoethane

GRO = gasoline-range organics

mg/L = milligrams per liter

NA = not analyzed

NM = not measured

NS = not sampled

NTU = nephelometric turbidity unit

ORO = oil-range organics

Table B-5
Summary of Groundwater Sampling Results - Well MW-15
SeaTac Development Site
SeaTac, Washington

Date Sampled	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Field Parameters					Analytical Data												
				pH	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	GRO (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	N-hexane (µg/L)	Naphthalene (µg/L)	DRO (mg/L)	ORO (mg/L)	DRO after Silica Gel Cleanup (mg/L)	ORO after Silica Gel Cleanup (mg/L)
MTCA Method A Groundwater Cleanup Levels[a]									**0.8[b]/1.0[c]**	**5.0**	**1,000**	**700**	**1,000**	**0.01**	**480[d]**	**160**	**0.5**	**0.5**	**0.5**	**0.5**
11/01/07	364.67	54.19	310.48	NM	NM	NM	NM	NM	**10**	**18**	16	350	418	NA	NA	NA	0.44	NA	NA	NA
05/19/09	364.67	54.76	309.91	6.34	15.2	552	1.58	> 1,000	**7.80**	**9.90**	3.4	200	74	NA	NA	NA	NA	NA	NA	NA
12/07/09	364.67	55.05	309.62	6.61	13.6	484	0.26	NM	**5.90**	**21**	<4.0	420	49	<0.0096	6.3	150	NA	NA	NA	NA
03/16/10	364.67	54.83	309.84	6.44	12.9	565	0.18	21.0	**5.40**	**17**	2.0	310	59	<0.0096	28	120	NA	NA	NA	NA
11/08/18	364.67	52.40	312.27	7.18	14.0	290	2.49	NM	**0.82**	0.48	0.19 J	1.8	0.24 J	NA	NA	NA	**1.0**	<0.20	NA	NA
01/18/21	364.67	54.80	309.87	6.58	13.9	493	0.92	36.6	0.29	0.60	<1.0	0.71	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
01/24/22	364.67	54.54	310.13	6.64	13.7	542	0.72	3.5	0.10	0.19	<0.50	<0.25	<0.75	<0.010	<2.5	<1.0	NA	NA	NA	NA
01/31/23	365.42	54.18	311.24	6.58	13.4	225	4.04	32.0	0.43	0.42	<1.0	0.51	<1.5	<0.250[e]	<2.0	<2.0	NA	NA	NA	NA

Notes:

Values in bold and **red** exceed MTCA Method A Cleanup Levels.

J = Laboratory estimated value

[a] Ecology's Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC), Tables 720-1, Method A Cleanup Levels for Groundwater.

[b] When benzene is present.

[c] When benzene is not present.

[d] Method B cleanup level used because Method A cleanup level is not established. Standard formula values, direct contact Method B groundwater cleanup levels as published on Ecology's Cleanup Level and Risk Calculatior (CLARC) on-line database (July 2022).

[e] The analyte was not detected at or above the method detection limit (MDL); however, the MDL exceeded the cleanup level.

Abbreviations and Acronyms:

°C = degrees Celsius
µg/L = micrograms per liter
µmhos/cm = micromhos per centimeter
DRO = diesel-range organics
EDB = 1,2-dibromoethane
GRO = gasoline-range organics
mg/L = milligrams per liter
NA = not analyzed
NM = not measured
NS = not sampled
NTU = nephelometric turbidity unit
ORO = oil-range organics

Table B-6
Summary of Groundwater Sampling Results - Well MW-16
SeaTac Development Site
SeaTac, Washington

Date Sampled	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Field Parameters					Analytical Data									
				pH	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	GRO (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	N-hexane (µg/L)	Naphthalene (µg/L)	DRO (mg/L)	ORO (mg/L)
MTCA Method A Groundwater Cleanup Levels[a]									**0.8[b]/1.0[c]**	**5.0**	**1,000**	**700**	**1,000**	**0.01**	**480[d]**	**160**	**0.5**	**0.5**
11/13/07	376.36	65.95	310.41	--	--	--	--	--	**26**	**160**	320	**830**	**1,733**	NA	NA	NA	NA	NA
05/22/09	376.36	66.56	309.80	6.33	15.4	440	0.35	3.97	**28**	**180**	67	**1,200**	**1,800**	<0.10[e]	240	**350**	NA	NA
12/07/09	376.36	66.82	309.54	6.50	12.7	473	0.25	NM	**10**	**69**	67	580	490	**0.053**	66	**230**	NA	NA
03/17/10	376.36	66.62	309.74	6.40	11.7	446	0.22	5.14	**6.60**	**51**	15	430	292	**0.044**	38	**170**	NA	NA
07/29/19	377.63	65.95	311.68	6.57	15.6	184	0.45	NM	**1.73**	0.64	0.32	0.45	0.48 J	<0.0030	4.13	1.0	<0.10	<0.20
10/19/20	377.63	68.02	309.61	6.55	13.4	237	2.26	2.54	0.19	0.29	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA
01/18/21	377.63	68.21	309.42	6.37	13.3	248	0.58	1.08	0.41	0.22	<1.0	<0.50	<1.5	<0.010	3.43	<2.0	NA	NA
04/26/21	377.63	67.82	309.81	6.72	14.1	184	1.31	2.13	0.35	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA
07/26/21	377.63	68.02	309.61	6.79	15.8	150	0.90	0.49	0.080 J	0.12 J	<0.50	<0.25	<0.75	<0.040[e]	<2.0	<2.0	NA	NA
01/24/22	377.63	67.68	309.95	6.88	12.7	147	1.30	0.81	<0.050	<0.10	<0.50	<0.25	<0.75	<0.020[e]	<2.5	<1.0	NA	NA
07/25/22	377.63	66.81	310.82	6.38	14.8	143	1.35	1.32	<0.10	<0.20	<1.0	<0.50	<1.5	<0.020e	<2.0	<2.0	NA	NA
10/26/22	377.63	67.15	310.48	6.05	13.6	199	3.78	0.71	0.18	<0.20	<1.0	<0.50	<1.5	<0.020e	<2.0	<2.0	NA	NA
01/31/23	377.63	67.34	310.29	6.75	12.0	184	0.86	1.22	0.13	<0.20	<1.0	<0.50	<1.5	<0.020e	<2.0	<2.0	NA	NA
04/11/23	377.63	67.25	310.38	6.58	12.8	166	0.84	2.45	0.13	<0.20	<1.0	<0.50	<1.5	<0.250[e]	<2.0	<2.0	NA	NA
07/31/23	377.63	67.78	309.85	6.86	16.2	207	0.98	0.76	<0.1	<0.250	<1.00	<0.500	<1.50	<0.0100	<10.0	<4.00	NA	NA

Notes:

Values in bold and **red** exceed MTCA Method A Cleanup Levels.

-- = Not avaliable

J = Laboratory estimated value

[a] Ecology's Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC), Tables 720-1, Method A Cleanup Levels for Groundwater.

[b] When benzene is present.

[c] When benzene is not present.

[d] Method B cleanup level used because Method A cleanup level is not established. Standard formula values, direct contact Method B groundwater cleanup levels as published on Ecology's Cleanup Level and Risk Calculatior (CLARC) on-line database (July 2022).

[e] The analyte was not detected at or above the method detection limit (MDL); however, the MDL exceeded the cleanup level.

Abbreviations and Acronyms:

°C = degrees Celsius
µg/L = micrograms per liter
µmhos/cm = micromhos per centimeter
DRO = diesel-range organics
EDB = 1,2-dibromoethane
GRO = gasoline-range organics
mg/L = milligrams per liter
NA = not analyzed
NM = not measured
NS = not sampled
NTU = nephelometric turbidity unit
ORO = oil-range organics

Table B-7
Summary of Groundwater Sampling Results - Well MW-17A
SeaTac Development Site
SeaTac, Washington

Date Sampled	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Field Parameters					Analytical Data												
				pH	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	GRO (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	N-hexane (µg/L)	Naphthalene (µg/L)	DRO (mg/L)	ORO (mg/L)	DRO after Silica Gel Cleanup (mg/L)	ORO after Silica Gel Cleanup (mg/L)
MTCA Method A Groundwater Cleanup Levels[a]									0.8[b]/1.0[c]	5.0	1,000	700	1,000	0.01	480[d]	160	0.5	0.5	0.5	0.5
11/13/07	385.81	75.60	310.21	NM	NM	NM	NM	NM	17	1.0	5.2	45	507	NA	NA	NA	7.3	< 0.50	NA	NA
05/28/09	385.81	76.17	309.64	6.23	18.2	183.9	0.37	4.9	6.3	0.70	0.6	13	96	< 0.20[g]	< 5.0	150	NA	NA	NA	NA
12/07/09	385.81	76.49	309.32	6.46	10	166	0.13	NM	4.5	< 4.0	7.0	8.8	56	< 0.0095	< 4.0	140	NA	NA	NA	NA
03/17/10	385.81	76.29	309.52	6.51	9.3	145	0.52	142	1.7	< 1.0	< 1.0	4.0	27	< 0.0095	< 1.0	63	NS	NS	NS	NS
02/11/14	394.00[e]	83.80	310.20[f]	6.36	11.3	82.5	1.06	137	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.080[g]	< 0.20	0.74	< 0.10	< 0.20	NA	NA
05/29/14	394.00[e]	84.00	310.00[f]	6.22	12.2	175	2.06	39.7	< 0.10	0.25	< 0.25	< 0.25	< 0.50	< 0.070[g]	< 0.20	0.62 J	< 0.10	< 0.20	NA	NA
09/10/14	394.00[e]	84.18	309.82[f]	6.28	12.4	162	1.42	18.8	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.070[g]	< 0.20	0.64 J	< 0.10	< 0.20	NA	NA
12/05/14	394.00[e]	84.18	309.82[f]	6.42	11.7	167	1.09	31.8	< 0.10 J	0.54 J	< 0.25 J	< 0.25 J	0.63 J	< 0.070[g]	< 0.20 J	2.8	< 0.10	< 0.20	NA	NA
06/17/15	394.00[e]	84.16	309.84[f]	6.29	12.9	158	3.13	29.6	< 0.25	< 0.20	< 0.20	< 0.20	< 0.40	< 0.070[g]	< 0.20	< 0.50	< 0.10	< 0.20	NA	NA
12/18/15	394.00e	85.95	308.05f	6.57	11.8	127	0.20	23.7	0.050 J	0.75	< 0.20	0.080 J	< 0.40	<0.020[e]	< 0.20	0.98 J	< 0.10	< 0.20	NA	NA
05/03/16	394.00[e]	85.21	308.79[f]	6.51	13.1	132	4.60	8.41	<0.10	0.33	<0.20	<0.20	<0.40	<0.20[g]	0.11 J	0.71 J	<0.10	<0.20	NA	NA
11/15/16	394.00[e]	84.57	309.43[f]	6.46	12.6	122	3.76	10.2	<0.10	0.14 J	<0.20	<0.20	<0.40	<0.20[g]	<0.20	<0.50	<0.10	<0.20	NA	NA
05/03/17	394.00[e]	84.24	309.76[f]	6.08	12.4	76	7.25	7.57	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20[g]	<0.20	<0.50	<0.10	<0.20	NA	NA
11/15/17	394.00[e]	83.17	310.83[f]	6.62	12.1	105	7.05	NM	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20[g]	<0.20	0.54	<0.10	<0.20	NA	NA
01/16/18	394.00[e]	82.95	311.05[f]	6.27	12.0	111	8.55	4.2	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20[g]	<0.20	<0.50	<0.10	<0.20	NA	NA
03/09/18	394.00[e]	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
05/15/18	394.00[e]	82.21	311.79f	6.14	12.9	106	8.57	1.4	<0.10	<0.20	<0.20	<0.20	<0.40	<0.010	<0.20	<0.50	<0.10	<0.20	NA	NA
11/08/18	394.00[e]	82.49	311.51[f]	6.48	12.3	116	8.20	3.4	<0.10	<0.20	<0.20	<0.20	<0.40	<0.010	<0.20	<0.50	<0.10	<0.20	NA	NA
07/29/19	394.00[e]	82.67	311.33[f]	6.35	15.4	175	6.90	NM	<0.10	<0.20	<0.20	<0.20	<0.60	<0.0030	0.10 J	<0.50	<0.10	<0.20	<0.10	<0.20
01/30/20	394.44	84.14	310.30	6.38	12.1	161	5.74	NM	<0.10	<0.10	<0.50	<0.25	<0.75	<0.010	<1.0	<1.0	NA	NA	NA	NA
07/21/20	394.44	84.35	310.09	5.35	13.7	168	1.99	NM	<0.10	<0.20	<1.0	<0.50	<1.5	<0.0100	<2.0	<2.0	NA	NA	NA	NA
10/19/20	394.44	84.93	309.51	5.86	14.3	182	3.02	13.2	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
01/18/21	394.44	85.14	309.30	6.23	12.3	179	1.15	1.7	<0.10	0.49	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
04/26/21	394.44	84.69	309.75	6.29	13.3	180	3.98	94.8	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
07/26/21	394.44	84.85	309.59	6.34	16.1	162	3.99	38.1	<0.050	<0.10	<0.50	<0.25	<0.75	<0.010	<2.0	<2.0	NA	NA	NA	NA
01/24/22	394.44	84.68	309.76	6.70	12.4	220	1.50	12.9	<0.050	<0.10	<0.50	<0.25	<0.75	<0.010	<2.5	<1.0	NA	NA	NA	NA
07/25/22	394.44	83.38	311.06	6.12	14.0	189	4.00	33.5	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
10/26/22	394.44	83.99	310.45	5.74	13.3	127	6.64	1.5	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
01/31/23	394.44	84.19	310.25	6.55	12.7	139	5.30	1.2	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
04/11/23	394.44	84.11	310.33	6.32	12.5	135	5.09	6.36	<0.10	<0.20	<1.0	<0.50	<1.5	<0.250[g]	<2.0	<2.0	NA	NA	NA	NA
08/01/23	394.44	85.05	309.39	6.17	14.5	154	4.50	1.24	<0.1	<0.250	<1.00	<0.500	<1.50	<0.0100	<10.0	<4.00	NA	NA	NA	NA

Table B-7
Summary of Groundwater Sampling Results - Well MW-17A
SeaTac Development Site
SeaTac, Washington

Notes:

Values in bold and **red** exceed MTCA Method A Cleanup Levels.

J = Laboratory estimated value

[a] Ecology's Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC), Tables 720-1, Method A Cleanup Levels for Groundwater.

[b] When benzene is present.

[c] When benzene is not present.

[d] Method B cleanup level used because Method A cleanup level is not established. Standard formula values, direct contact Method B groundwater cleanup levels as published on Ecology's Cleanup Level and Risk Calculation (CLARC) on-line database (July 2022).

[e] Top of casing elevation was not surveyed; elevation was estimated by Golder Associates, Inc.

[f] Estimated elevation.

[g] The analyte was not detected at or above the method detection limit (MDL); however, the MDL exceeded the cleanup level.

Abbreviations and Acronyms:

°C = degrees Celsius
µg/L = micrograms per liter
µmhos/cm = micromhos per centimeter
DRO = diesel-range organics
EDB = 1,2-dibromoethane
GRO = gasoline-range organics
mg/L = milligrams per liter
NA = not analyzed
NM = not measured
NS = not sampled
NTU = nephelometric turbidity unit
ORO = oil-range organics

Table B-8
Summary of Groundwater Sampling Results - Well MW-18
SeaTac Development Site
SeaTac, Washington

Date Sampled	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Field Parameters					Analytical Data												
				pH	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	GRO (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	N-hexane (µg/L)	Naphthalene (µg/L)	DRO (mg/L)	ORO (mg/L)	DRO after Silica Gel Cleanup (mg/L)	ORO after Silica Gel Cleanup (mg/L)
MTCA Method A Groundwater Cleanup Levels[a]									**0.8[b]/1.0[c]**	**5.0**	**1,000**	**700**	**1,000**	**0.01**	**480[d]**	**160**	**0.5**	**0.5**	**0.5**	**0.5**
11/28/07	360.45	52.50	307.95	NM	NM	NM	NM	NM	**79**	**2,900**	**7,500**	**1,600**	**6,290**	NA	NA	NA	**0.66**	< 0.50[e]	NA	NA
05/21/09	360.45	54.53	305.92	6.71	17.4	494	0.11	4.58	**78**	**3,100**	**7,600**	**2,200**	**9,600**	**1.4**	**500**	**460**	NA	NA	NA	NA
12/07/09	360.45	50.85	309.60	6.80	12.4	587	0.28	NM	**44**	**2,200**	**5,400**	**1,600**	**6,690**	**1.9**	180	**380**	NA	NA	NA	NA
03/18/10	360.45	50.58	309.87	6.69	14.2	586	0.11	5.39	**52**	**2,600**	**6,000**	**1,700**	**6,690**	**2.5**	350	**420**	NS	NS	NS	NS
02/12/14	360.45	49.01	311.44	7.62	13.8	175	8.11	2.89	**1.0**	**27**	13	17	91	< 0.080[e]	1.1	4.0	**0.77 J**	<0.20	NA	NA
05/29/14	360.45	49.75	310.70	7.98	15.2	369	10.60	7.95	0.14	**6.6**	1.5	4.7	9.2	< 0.070[e]	0.64	0.84 J+	0.33 J	<0.20	NA	NA
09/11/14	360.45	49.83	310.62	8.23	15.2	498	11.23	13.1	< 0.10	0.72	0.27	0.40	0.72	< 0.010	< 0.20	< 0.50	0.14	< 0.20	NA	NA
12/04/14	360.45	49.83	310.62	7.84	14.4	470	10.78	81.6	< 0.10	0.69	< 0.25	0.63	0.93	< 0.070[e]	0.10 J	< 0.50	0.24	< 0.20	NA	NA
06/18/15	360.45	49.51	310.94	8.05	15.2	515	10.89	49.6	< 0.25	0.67	0.54	0.24	1.1	< 0.070[e]	< 0.20	< 0.50	0.38	< 0.20	NA	NA
12/03/15	360.45	NM	NM	8.28	14.8	455	10.21	14.6	< 0.25	0.57	4.8	0.34	9.8	<0.020[e]	0.25	0.67	0.13	< 0.20	NA	NA
05/04/16	360.45	51.12	309.33	7.27	14.8	513	4.53	4.77	0.22	**8.0**	5.5	8.2	29	<0.20[e]	1.5	1.5 J	0.37 J	<0.20	NA	NA
11/16/16	360.45	50.63	309.82	7.55	15.0	503	6.97	2.44	0.12	3.6	1.2	2.1	9.0	<0.20[e]	0.39	<0.50	0.48	<0.20	NA	NA
05/03/17	360.45	50.12	310.33	7.19	15.6	313	4.54	3.57	0.28	**6.9**	3.1	6.8	21	<0.20[e]	1.4	2.7	0.29	0.30	NA	NA
11/14/17	360.45	49.00	311.45	6.78	15.2	454	0.71	NM	**1.3**	3.6	1.6	7.4	8.7	<0.20[e]	0.33	<0.50	**4.4**	0.43	NA	NA
01/16/18	360.45	48.62	311.83	6.12	14.4	22.7	6.23	18.1	<0.10	<0.20	<0.20	<0.20	<0.40	<0.20[e]	<0.20	<0.50	<0.10	<0.20	NA	NA
03/09/18	360.45	48.35	312.10	6.69	14.4	479	0.28	1.89	**1.9**	NS	NS	NS	NS	NS	NS	NS	**4.7**	<0.20	NA	NA
05/16/18	360.45	47.94	312.51	6.42	15.2	405	0.21	1.41	**1.5**	**6.2**	2.2	20	19	<0.010	1.3	5.1	**2.9**	<0.20	NA	NA
11/07/18	360.45	48.14	312.31	6.82	15.1	506	0.17	2.50	**1.5**	**6.6**	1.1	24	2.8	<0.010	<0.20	7.0	**3.3**	<0.20	NA	NA
07/26/19	360.45	48.58	311.87	6.55	17.9	782	0.65	NM	**1.2**	**1.3**	0.25	1.2	2.4	<0.0030	0.22	4.8	**2.8**	<0.20	<0.10	<0.20
01/30/20	360.45	50.03	310.42	7.51	13.5	27.0	7.14	NM	<0.10	<0.10	<0.50	<0.25	<0.75	<0.010	<1.0	<1.0	NA	NA	<0.080	<0.16
07/22/20	360.45	50.25	310.20	6.80	16.1	355	1.57	NM	<0.10	<0.20	<1.0	<0.50	<1.50	#REF!	<2.0	<2.0	NA	NA	NA	NA
10/19/20	360.45	50.68	309.77	7.51	16.4	390	2.34	1.5	<0.10	<0.20	<1.0	<0.50	<1.50	<0.010	<2.0	<2.0	NA	NA	NA	NA
01/18/21	360.45	50.90	309.55	7.49	14.9	378	0.66	0.7	<0.10	0.66	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
04/26/21	360.45	50.49	309.96	7.65	15.7	378	0.19	0.44	<0.10	0.51	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
07/26/21	360.45	50.63	309.82	7.65	18.1	308	0.31	0.63	<0.05	0.59	<0.50	<0.25	<0.75	<0.010	<2.0	<2.0	NA	NA	NA	NA
01/25/22	360.45	50.31	310.14	7.01	14.7	622	0.40	0.29	<0.05	0.33	<0.50	<0.25	<0.75	<0.010	<2.5	<1.0	NA	NA	NA	NA
07/26/22	360.45	49.43	311.02	6.92	18.2	496	0.86	1.71	<0.10	0.70	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
10/25/22	360.45	49.79	310.66	6.36	15.9	530	0.68	0.69	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
01/31/23	360.45	49.96	310.49	7.09	13.8	510	0.66	1.12	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
04/11/23	360.45	49.90	310.55	6.77	15.1	312	0.80	0.59	<0.10	<0.20	<1.0	<0.50	<1.5	<0.250[e]	<2.0	<2.0	NA	NA	NA	NA
08/01/23	360.45	50.40	310.05	6.78	16.0	503	0.66	0.70	<0.1	0.170 J	<1.00	<0.500	<1.50	<0.0100	<10.0	<4.00	NA	NA	NA	NA

Table B-8
Summary of Groundwater Sampling Results - Well MW-18
SeaTac Development Site
SeaTac, Washington

Notes:

Values in bold and **red** exceed MTCA Method A Cleanup Levels.

J = Laboratory estimated value

[a] Ecology's Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC), Tables 720-1, Method A Cleanup Levels for Groundwater.

[b] When benzene is present.

[c] When benzene is not present.

[d] Method B cleanup level used because Method A cleanup level is not established. Standard formula values, direct contact Method B groundwater cleanup levels as published on Ecology's Cleanup Level and Risk Calculatio (CLARC) on-line database (July 2022).

[e] The analyte was not detected at or above the method detection limit (MDL); however, the MDL exceeded the cleanup level.

Abbreviations and Acronyms:

°C = degrees Celsius
µg/L = micrograms per liter
µmhos/cm = micromhos per centimeter
DRO = diesel-range organics
EDB = 1,2-dibromoethane
GRO = gasoline-range organics
mg/L = milligrams per liter
NA = not analyzed
NM = not measured
NS = not sampled
NTU = nephelometric turbidity unit
ORO = oil-range organics

Table B-9
Summary of Groundwater Sampling Results - Well MW-22
SeaTac Development Site
SeaTac, Washington

Date Sampled	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Field Parameters					Analytical Data												
				pH	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	GRO (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	N-hexane (µg/L)	Naphthalene (µg/L)	DRO (mg/L)	ORO (mg/L)	DRO after Silica Gel Cleanup (mg/L)	ORO after Silica Gel Cleanup (mg/L)
MTCA Method A Groundwater Cleanup Levels[a]									**0.8[b]/1.0[c]**	**5.0**	**1,000**	**700**	**1,000**	**0.01**	**480[d]**	**160**	**0.5**	**0.5**	**0.5**	**0.5**
12/10/09	393.31	83.8	309.51	6.96	11.7	5.66	0.27	NM	**8.0**	**17**	26	**770**	**1,112**	< 0.0095	4.9	**270**	NA	NA	NA	NA
02/12/10	393.31	NM	NM	NM	NM	NM	NM	0.97	**12.0**	**22**	51	**850**	**1,719**	< 0.0096	11	**280**	NA	NA	NA	NA
03/16/10	393.31	83.63	309.68	6.65	12.5	586	0.25	82.0	**15.0**	**23**	74	**1,400**	**2,420**	< 0.0095	15	**380**	NS	NS	NS	NS
03/20/14	393.31	82.93	310.38	6.68	12.2	381	0.87	64.8	**17.0**	**5.7**	12	**990**	**1,503**	< 0.070[f]	7.8	**400 J**	**1.2 J**	< 0.20	NA	NA
05/28/14	393.31	82.72	310.59	6.73	13.2	383	0.30	2.26	**18.0**	3.90	9.70	**940**	**1,900**	< 0.070[f]	8.6	**420 B**	**1.7 J**	< 0.20	NA	NA
09/12/14	393.31	82.98	310.33	6.81	13.7	423	0.29	1.03	**16.0**	4.80	9.30	690	**1,103**	< 1.5[f]	9.8	**460 B J**	**1.1 J**	< 0.20	NA	NA
12/05/14	393.31	82.98	310.33	6.81	12.8	378	0.26	3.71	**16.0**	**8.70**	11.0	**740**	**1,103**	< 1.5[f]	7.2	**380**	**0.86 J**	< 0.20	NA	NA
06/25/15	393.31	82.95	310.36	6.82	13.6	354	0.52	3.34	**19.0**	**5.90**	7.40	**750**	**1,402**	< 0.74[f]	4.7	**310**	**1.0 J**	< 0.20	NA	NA
12/02/15	393.31	84.83	308.48	6.87	13.0	325	0.25	3.42	**19.0**	4.40	6.20	**840**	**1,503**	<0.020[e]	3.0 J	**240**	**1.5 J**	< 0.20	NA	NA
05/04/16	393.31	83.85	309.46	6.84	13.3	294	0.39	3.61	**15.0**	3.80	5.00	**780**	**1,403**	<0.20[f]	8.6	**470 Q**	**2.8 J**	<0.20	NA	NA
11/16/16	393.31	83.43	309.88	6.89	13.1	246	1.00	5.50	**11.0**	3.97	3.93	631	882	<0.20[f]	5.9 J	**438**	**1.9**	<0.20	NA	NA
05/02/17	393.31	82.95	310.36	6.67	13.3	172	0.41	1.87	**12.8**	4.22	4.35	651	960	<0.20[f]	5.7	**389**	**2.8**	<0.22	NA	NA
11/15/17	393.31	81.93	311.38	7.09	13.1	215	1.72	3.72	**11.1**	4.17	3.34	481	583	<2.0[f]	5.4	**326**	**2.4**	<0.20	NA	NA
01/18/18	393.31	81.43	311.88	6.67	12.9	196	0.81	3.08	**16.5**	4.90	3.89	530	731	<2.0[f]	7.9	**349**	**2.9**	<0.20	NA	NA
03/09/18	393.31	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NA
05/16/18	393.31	80.92	312.39	6.41	13.5	172	3.39	2.94	**12.2**	2.97	2.4	340	630	<0.010	4.8	**268**	**2.0**	<0.20	NA	NA
11/07/18	393.31	81.22	312.09	6.97	13.4	171	3.92	1.78	**8.56**	2.27	2.2	198	407	<0.010	4.0	**228**	**1.8 J**	0.20 UJ	NA	NA
08/08/19	393.31	81.52	311.79	6.02	14.6	231	5.05	NM	**1.94**	1.05	0.33	61.4	76.3	<0.0030	0.47	61	**0.77**	<0.20	<0.10	<0.20
01/29/20	393.31	82.58	310.73	6.72	12.8	192	1.78	NM	**4.32**	3.10	<5.0	247	335	<2.5[f]	<10	130	NA	NA	0.27[e]	<0.20
07/21/20	393.31	83.04	310.27	5.60	14.8	208	0.96	NM	**4.38**	2.90	<5.0	184	340	<2.5[f]	<10	**175**	NA	NA	NA	NA
01/24/22	393.31	82.79	310.52	7.70	13.0	252	0.54	0.84	0.23	1.51	<0.50	1	<0.75	<0.010	<1.0	13.2	NA	NA	NA	NA
01/30/23	393.31	82.96	310.35	7.72	12.4	204	0.76	2.17	0.10	0.40	<1.0	<0.50	<1.5	<0.010	<2.0	2.8	NA	NA	NA	NA

Table B-9
Summary of Groundwater Sampling Results - Well MW-22
SeaTac Development Site
SeaTac, Washington

Notes:

Values in bold and **red** exceed MTCA Method A Cleanup Levels.

J = Laboratory estimated value

[a] Ecology's Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC), Tables 720-1, Method A Cleanup Levels for Groundwater.

[b] When benzene is present.

[c] When benzene is not present.

[d] Method B cleanup level used because Method A cleanup level is not established. Standard formula values, direct contact Method B groundwater cleanup levels as published on Ecology's Cleanup Level and Risk Calculatior (CLARC) on-line database (July 2022).

[e] The laboratory noted that the result for diesel-range organics is due to overlap from gasoline or a gasoline-range product.

[f] The analyte was not detected at or above the method detection limit (MDL); however, the MDL exceeded the cleanup level.

Abbreviations and Acronyms:

°C = degrees Celsius
µg/L = micrograms per liter
µmhos/cm = micromhos per centimeter
DRO = diesel-range organics
EDB = 1,2-dibromoethane
GRO = gasoline-range organics
mg/L = milligrams per liter
NA = not analyzed
NM = not measured
NS = not sampled
NTU = nephelometric turbidity unit
ORO = oil-range organics

Table B-10
Summary of Groundwater Sampling Results - Well PORT-MW-B
SeaTac Development Site
SeaTac, Washington

Date Sampled	Top of Casing Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Field Parameters					Analytical Data												
				pH	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	GRO (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	N-hexane (µg/L)	Naphthalene (µg/L)	DRO (mg/L)	ORO (mg/L)	DRO after Silica Gel Cleanup (mg/L)	ORO after Silica Gel Cleanup (mg/L)
MTCA Method A Groundwater Cleanup Levels[a]									**0.8[b]/1.0[c]**	**5.0**	**1,000**	**700**	**1,000**	**0.01**	**480[d]**	**160**	**0.5**	**0.5**	**0.5**	**0.5**
08/03/11	400.00[e]	NM	NM	NM	NM	NM	NM	NM	0.20	1.3	< 1.0	13	3.4	< 0.01	< 1.0	13	0.28	< 0.25	NA	NA
03/20/14	400.00[e]	89.70	310.30[f]	6.55	12.3	267	6.16	NM	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.070[g]	< 0.20	< 0.50 J	< 0.10	< 0.20	NA	NA
05/28/14	400.00[e]	89.50	310.50[f]	6.50	14.2	317	4.63	98.3	< 0.10	< 0.25	< 0.25	< 0.25	< 0.50	< 0.070[g]	< 0.20	< 0.50	< 0.10	< 0.20	NA	NA
09/12/14	400.00[e]	89.71	310.29[f]	6.56	14.0	266	3.56	6.18	< 0.10	< 0.25	< 0.25	1.10	1.90	< 0.070[g]	< 0.20	< 0.50	< 0.10	< 0.20	NA	NA
12/05/14	400.00[e]	89.71	310.29[f]	6.57	12.6	265	4.07	84.1	0.11	< 0.25	< 0.25	1.10	1.00	< 0.070[g]	< 0.20	< 0.50	< 0.10	< 0.20	NA	NA
06/25/15	400.00[e]	89.67	310.33[f]	6.51	14.3	290	3.80	4.18	< 0.25	< 0.20	< 0.20	< 0.20	< 0.40	< 0.070[g]	< 0.20	< 0.50	< 0.10	< 0.20	NA	NA
12/02/15	400.00[e]	91.61	308.39[f]	6.56	13.0	267	2.34	1.79	< 0.25	< 0.20	< 0.20	0.26	0.40 J	< 0.070[g]	< 0.20	2.3 J	< 0.10	0.49	NA	NA
05/04/16	400.00[e]	90.55	309.45[f]	6.72	13.2	219	2.59	7.38	<0.10	0.080 J	<0.20	0.74	0.50	<0.20[g]	<0.20	0.83 J	<0.10	<0.20	NA	NA
11/16/16	400.00[e]	90.31	309.69[f]	6.70	13.1	192	3.97	11.7	<0.10	0.030 J	<0.20	0.04 J	<0.40	<0.20[g]	<0.20	<0.50	<0.10	<0.20	NA	NA
05/02/17	400.00e	89.65	310.35f	6.54	12.9	107	3.85	2.63	<0.10	0.21	<0.20	1.16	<0.40	<0.020[e]	<0.20	1.37	<0.10	<0.20	NA	NA
11/15/17	400.00[e]	88.67	311.33[f]	6.78	13.0	199	5.09	2.42	<0.10	<0.20	<0.20	0.36	<0.40	<0.20[g]	<0.20	<0.50	<0.10	<0.20	NA	NA
01/18/18	400.00[e]	88.17	311.83[f]	6.82	12.6	173	1.39	3.43	0.15	0.47	<0.20	2.68	<0.40	<0.20[g]	<0.20	3.24	0.17	<0.20	NA	NA
03/09/18	400.00[e]	NM	NM	NM	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NA
05/16/18	400.00[e]	87.64	312.36[f]	6.40	13.8	103	3.36	2.35	<0.10	<0.20	<0.20	<0.20	<0.40	<0.010	<0.20	<0.50	<0.10	<0.20	NA	NA
11/07/18	400.00[e]	87.91	312.09[f]	6.80	13.1	103	4.92	1.29	<0.10	<0.20	<0.20	<0.20	<0.40	<0.010	<0.20	<0.50	<0.10	<0.20	NA	NA
08/08/19	400.00[e]	89.52	310.73[f]	7.27	11.7	114	3.73	NM	<0.10	<0.20	<0.20	<0.20	<0.60	<0.0030	0.11 J	<0.50	0.14	<0.20	<0.10	<0.20
01/29/20	399.83	105.60	294.23	6.66	12.0	166	8.70	NM	<0.10	<0.10	<0.50	<0.25	<0.75	<0.010	<1.0	<1.0	NA	NA	NA	NA
07/21/20	399.83	89.77	310.06	5.37	14.5	174	3.15	NM	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
10/19/20	399.83	90.30	309.53	6.22	15.0	194	1.14	3.27	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
01/18/21	399.83	90.61	309.22	6.31	12.3	209	3.75	14.50	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
04/26/21	399.83	90.12	309.71	6.80	13.7	228	2.99	62.60	<0.10	0.22	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
07/26/21	399.83	90.28	309.55	6.88	15.2	185	3.88	2.10	<0.050	<0.10	<0.50	<0.25	<0.75	<0.010	<2.0	<2.0	NA	NA	NA	NA
01/24/22	399.83	90.02	309.81	7.00	12.7	224	2.71	0.64	<0.050	<0.10	<0.50	<0.25	<0.75	<0.010	<1.0	<1.0	NA	NA	NA	NA
07/25/22	399.83	89.11	310.72	6.88	17.8	253	2.01	6.20	<0.10	<0.20	<1.0	<0.50	<1.50	<0.010	<2.0	<2.0	NA	NA	NA	NA
10/25/22	399.83	89.49	310.34	6.14	14.2	152	4.11	12.70	<0.10	<0.20	<1.0	<0.50	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
01/30/23	399.83	89.67	310.16	7.48	11.9	211	1.43	114.00	<0.10	0.40	<1.0	1.2	<1.5	<0.010	<2.0	<2.0	NA	NA	NA	NA
04/11/23	399.83	89.52	310.31	7.27	11.7	114	3.73	18	<0.10	0.13 J	<1.0	<0.50	<1.5	<0.250[g]	<2.0	<2.0	NA	NA	NA	NA

Table B-10
Summary of Groundwater Sampling Results - Well PORT-MW-B
SeaTac Development Site
SeaTac, Washington

Notes:

J = Laboratory estimated value

[a] Ecology's Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 WAC), Tables 720-1, Method A Cleanup Levels for Groundwater.

[b] When benzene is present.

[c] When benzene is not present.

[d] Method B cleanup level used because Method A cleanup level is not established. Standard formula values, direct contact Method B groundwater cleanup levels as published on Ecology's Cleanup Level and Risk Calculatior (CLARC) on-line database (July 2022).

[e] Top of casing elevation was not surveyed; elevation was estimated by Golder Associates, Inc.

[f] Estimated elevation.

[g] The analyte was not detected at or above the method detection limit (MDL); however, the MDL exceeded the cleanup level.

Abbreviations and Acronyms:

°C = degrees Celsius
µg/L = micrograms per liter
µmhos/cm = micromhos per centimeter
DRO = diesel-range organics
EDB = 1,2-dibromoethane
GRO = gasoline-range organics
mg/L = milligrams per liter
NA = not analyzed
NM = not measured
NS = not sampled
NTU = nephelometric turbidity unit
ORO = oil-range organics

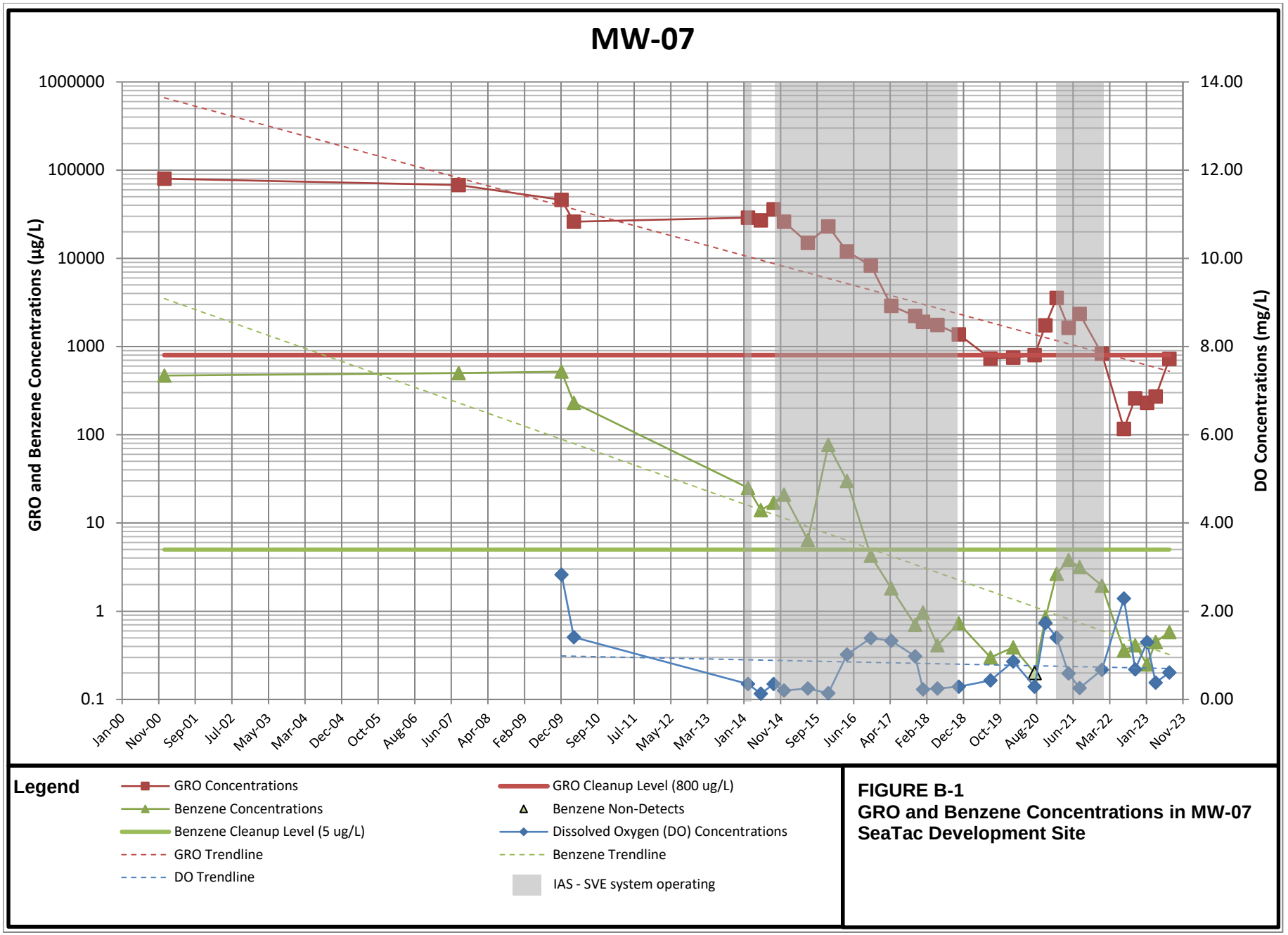

FIGURE B-1
GRO and Benzene Concentrations in MW-07
SeaTac Development Site

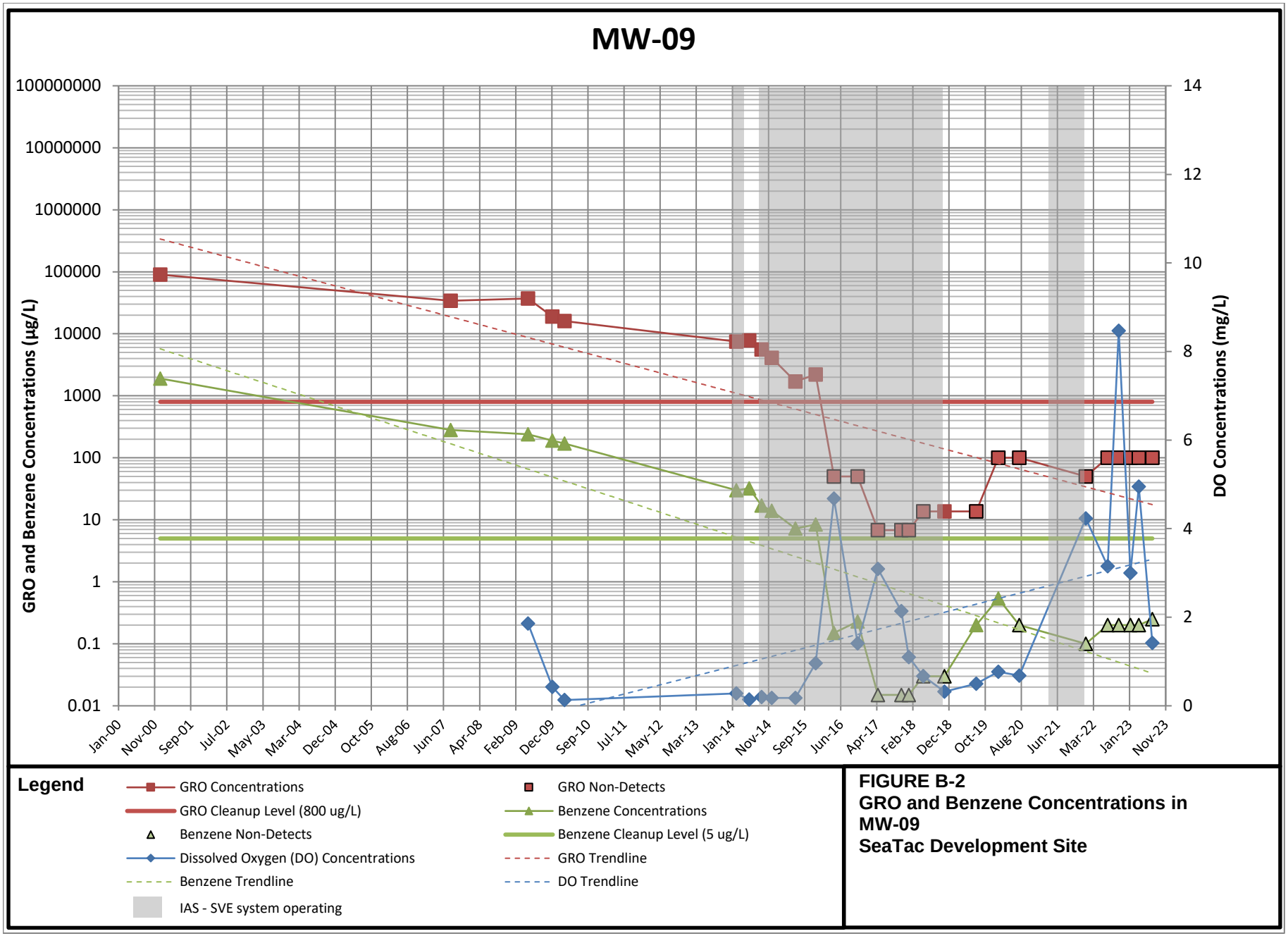

FIGURE B-2
GRO and Benzene Concentrations in MW-09
SeaTac Development Site

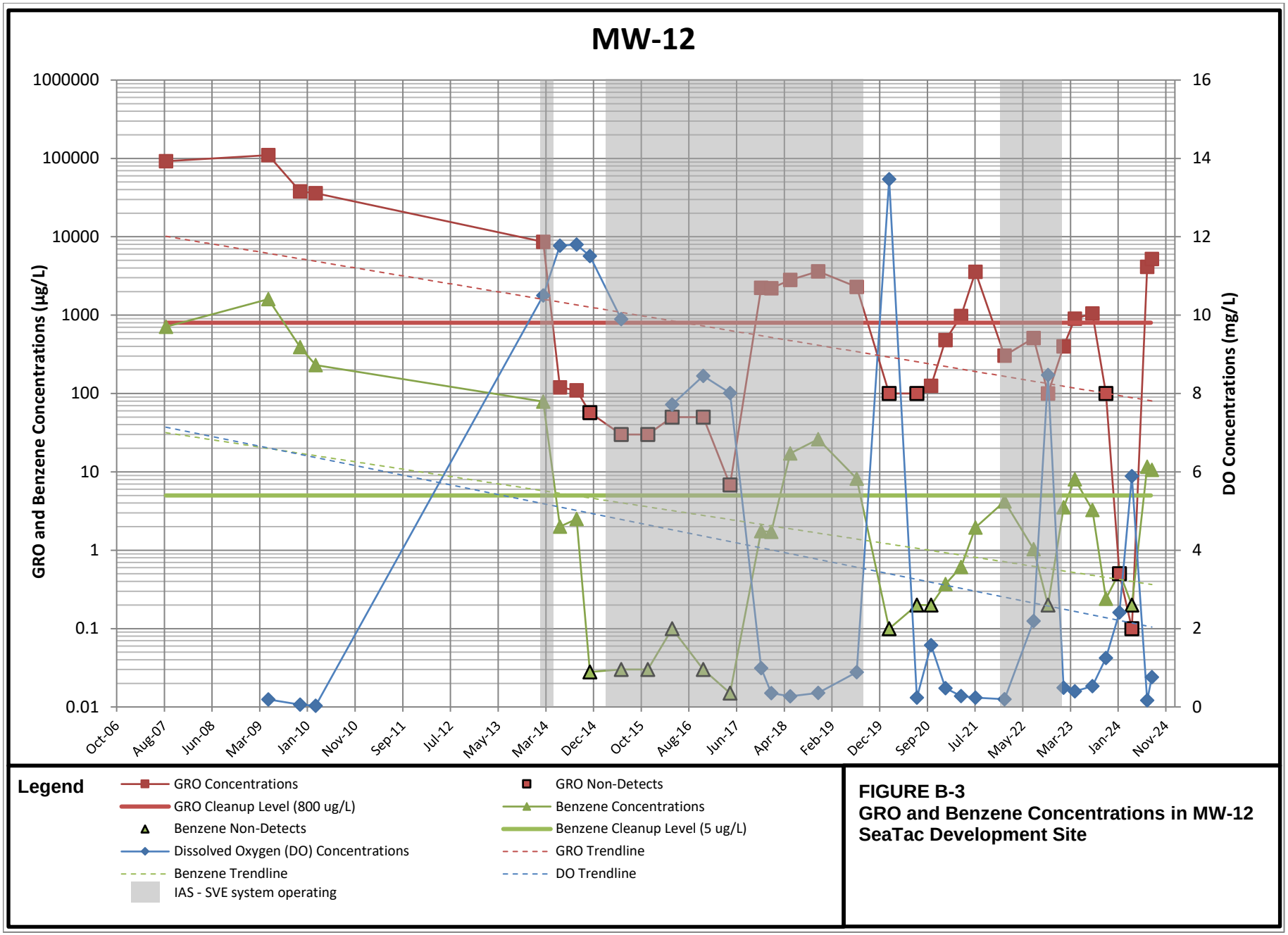

FIGURE B-3
GRO and Benzene Concentrations in MW-12
SeaTac Development Site

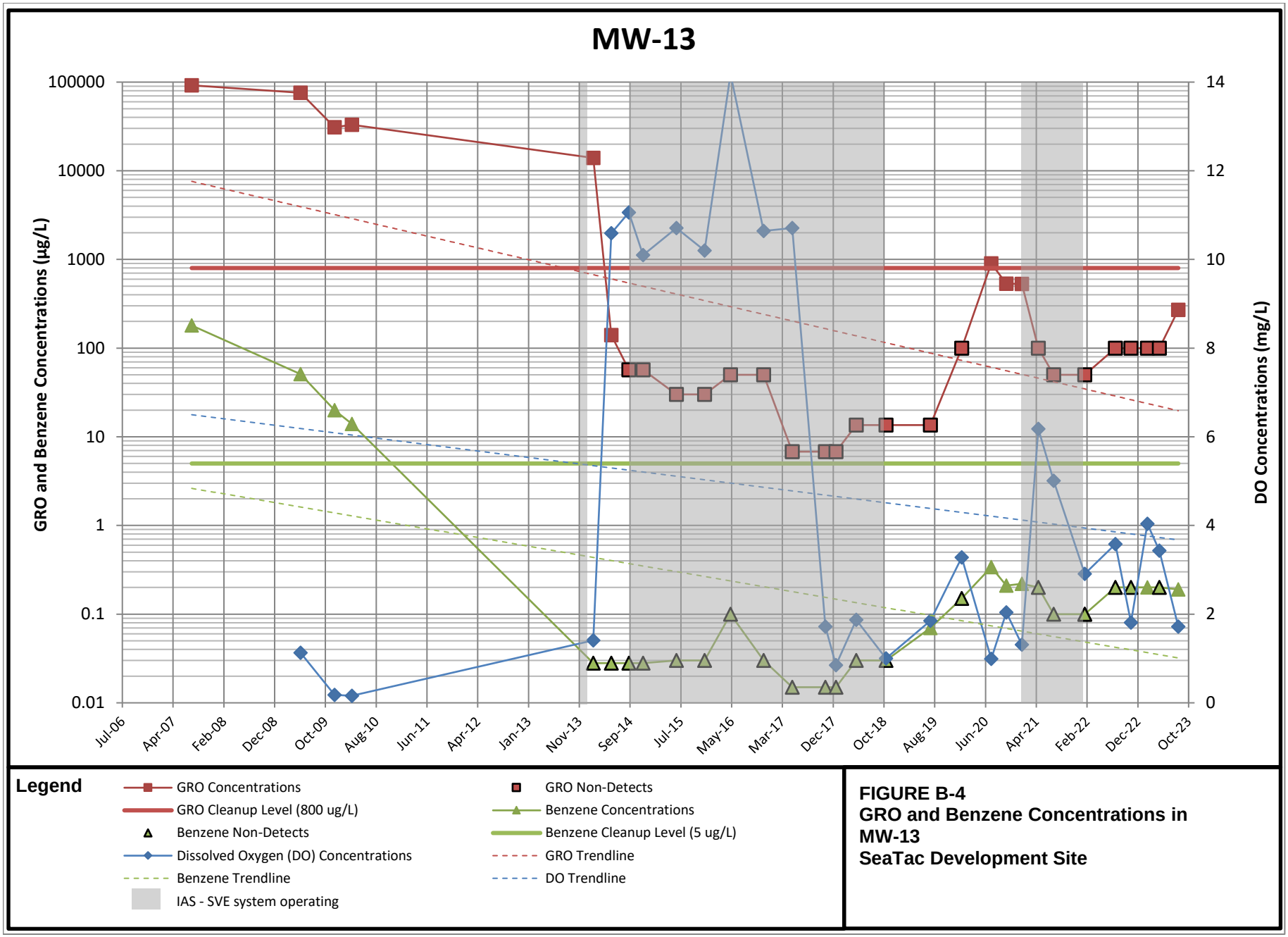

FIGURE B-4
GRO and Benzene Concentrations in MW-13
SeaTac Development Site

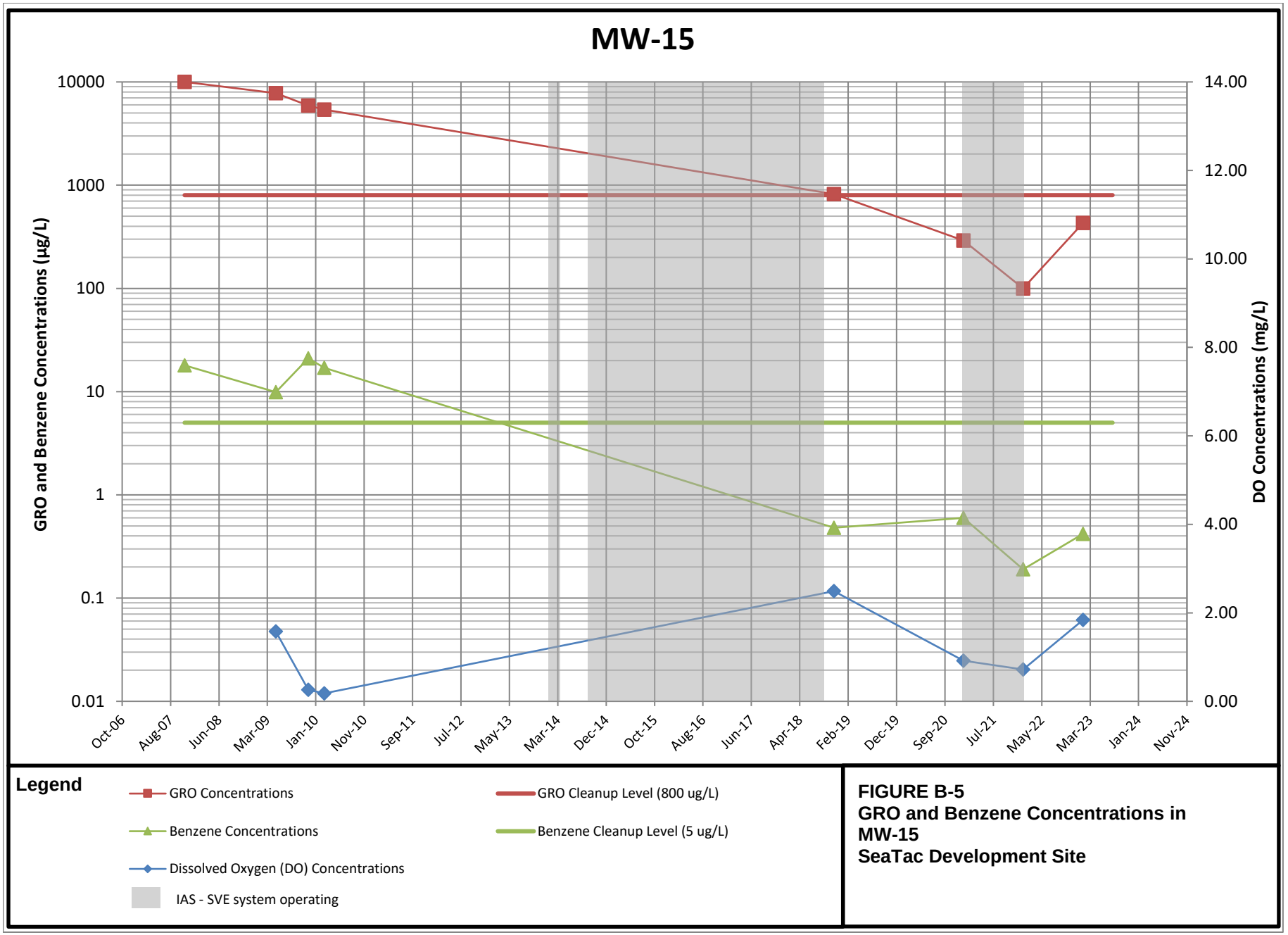

FIGURE B-5
GRO and Benzene Concentrations in MW-15
SeaTac Development Site

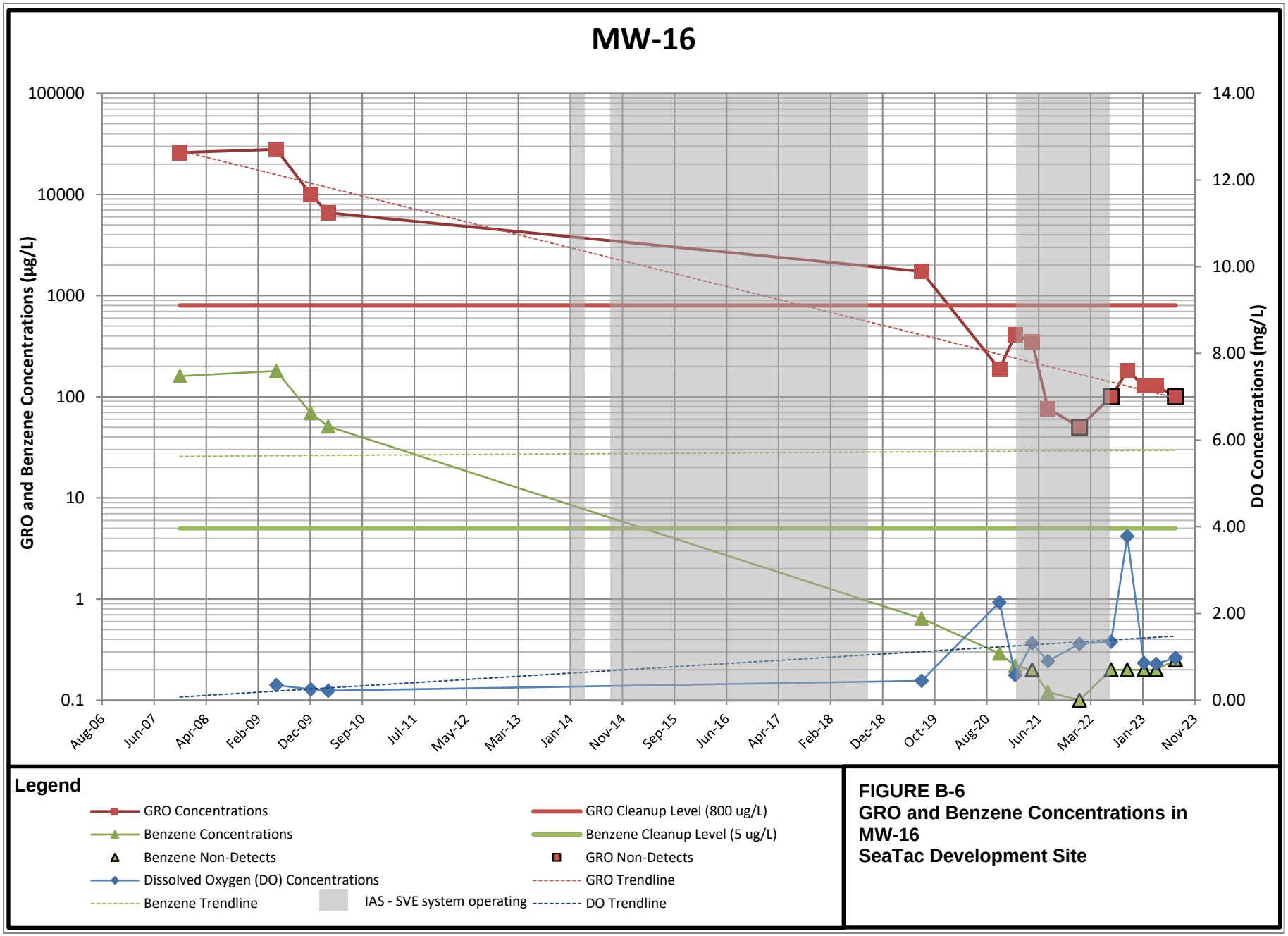

FIGURE B-6
GRO and Benzene Concentrations in MW-16
SeaTac Development Site

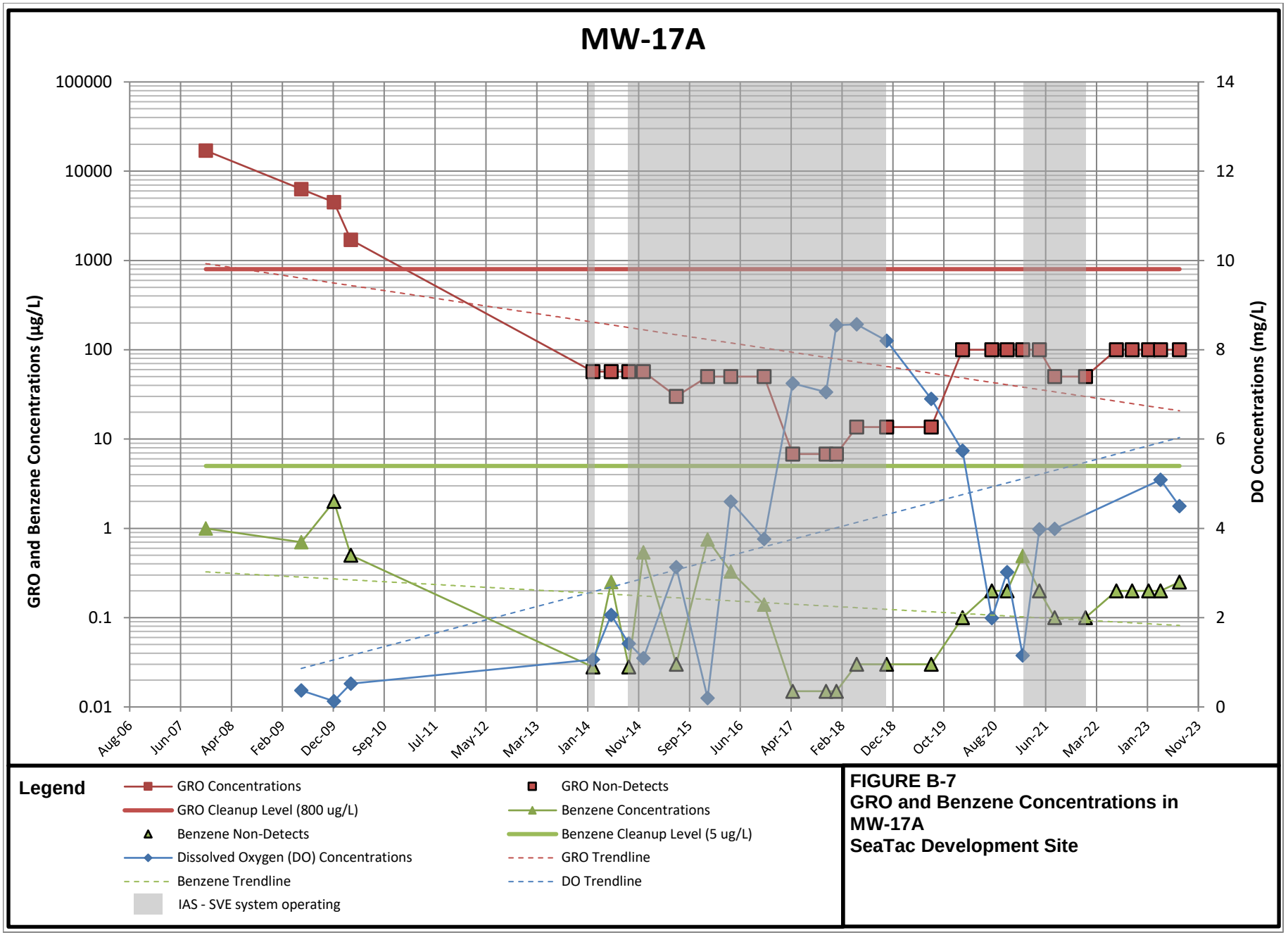

FIGURE B-7
GRO and Benzene Concentrations in MW-17A
SeaTac Development Site

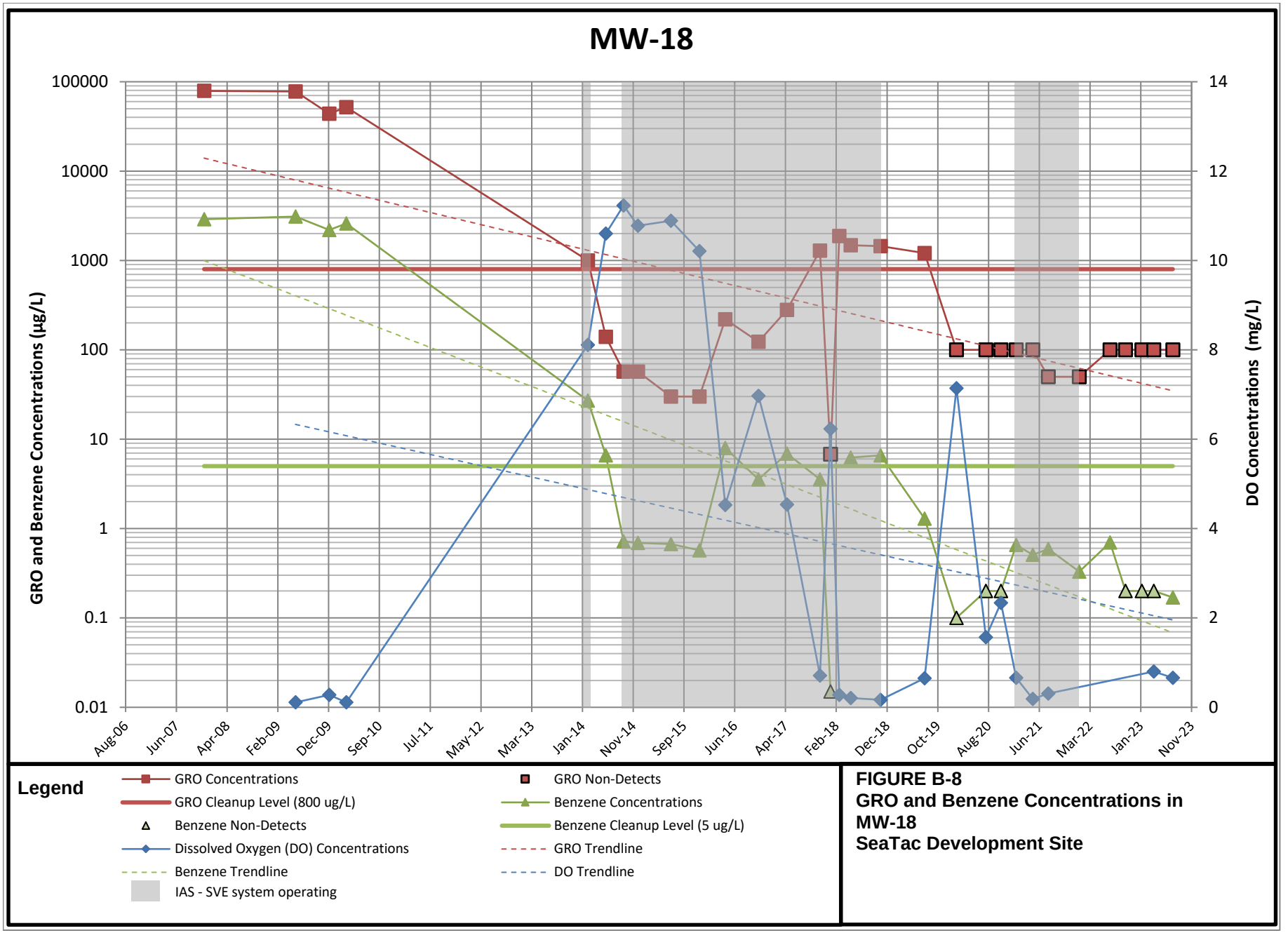

FIGURE B-8
GRO and Benzene Concentrations in MW-18
SeaTac Development Site

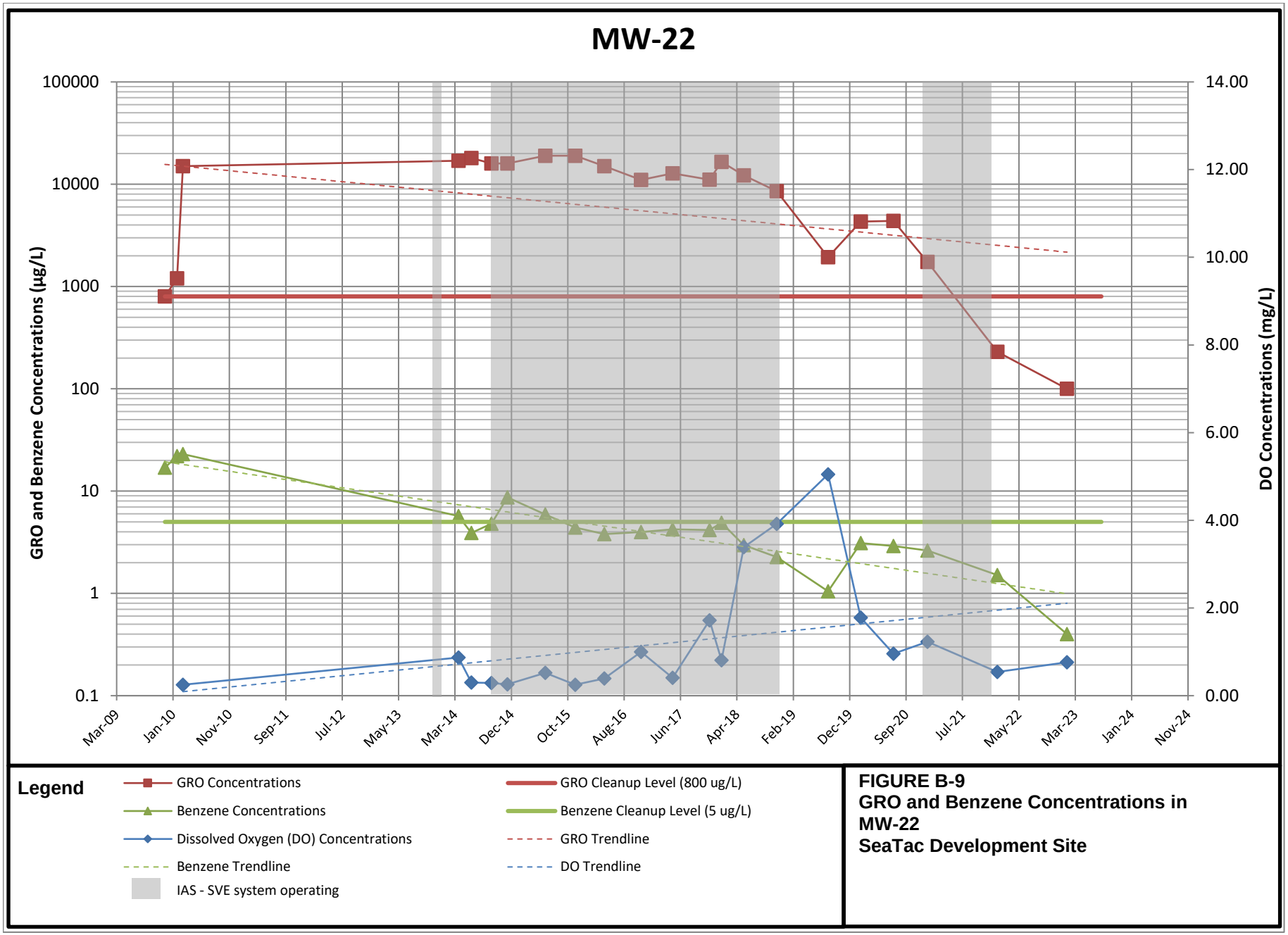

FIGURE B-9
GRO and Benzene Concentrations in MW-22
SeaTac Development Site

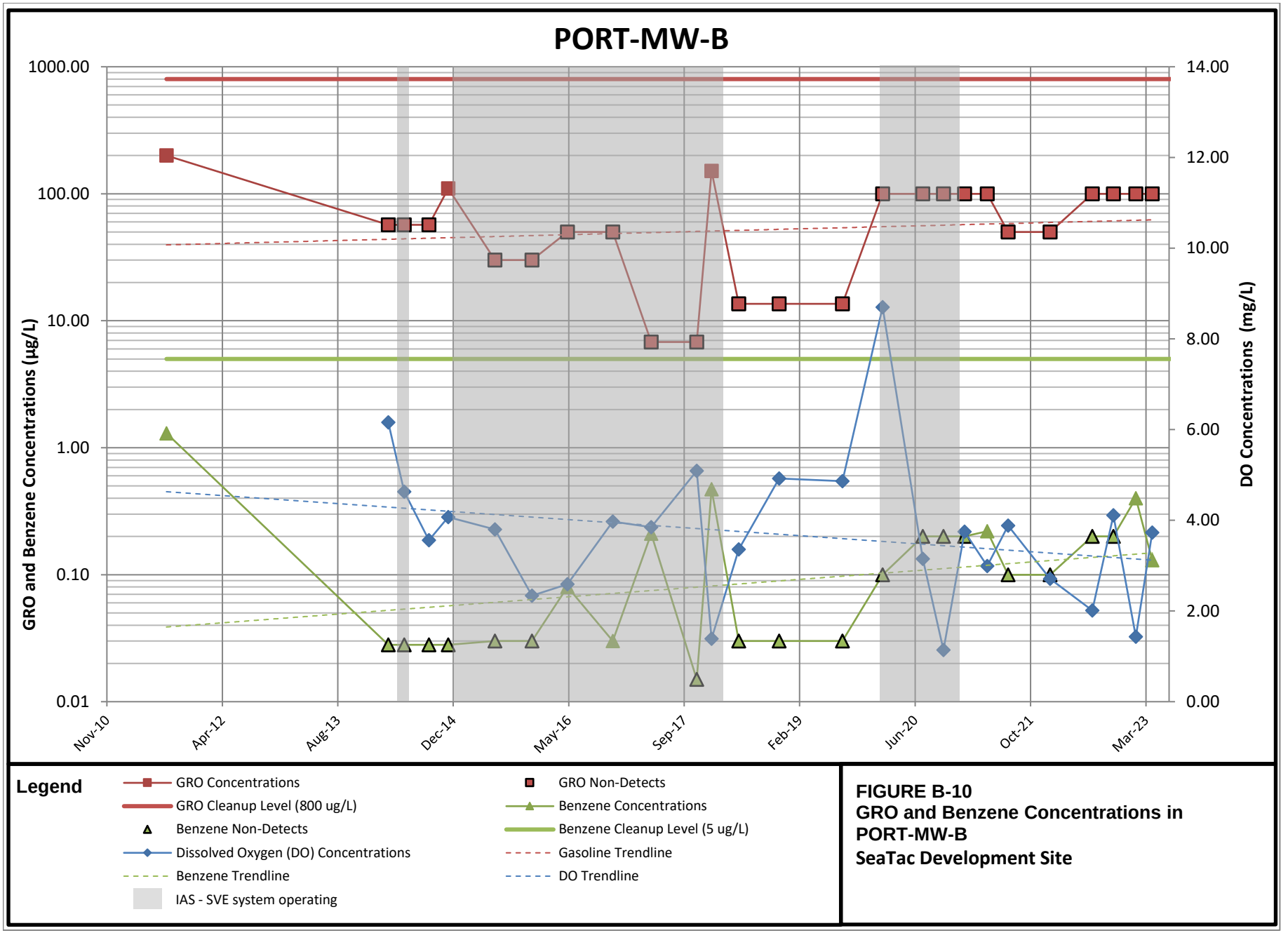

FIGURE B-10
GRO and Benzene Concentrations in PORT-MW-B
SeaTac Development Site

APPENDIX C

Analytical Laboratory Data Reports

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

AMENDED REPORT

Tuesday, August 6, 2024

Kate Gauglitz
Landau Associates (Northgate)
155 NE 100th St #302
Seattle, WA 98125

RE: A4G1125 - Sea-Tac Development Site - 2218001.020.022

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A4G1125, which was received by the laboratory on 7/11/2024 at 11:22:00AM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: pnerenberg@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Cooler Receipt Information
Acceptable Receipt Temperature is less than, or equal to, 6 degC (not frozen), or received on ice the same day as sampling.
(See Cooler Receipt Form for details)
Default Cooler 5.0 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.
All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

AMENDED REPORT

Landau Associates (Northgate)	Project: **Sea-Tac Development Site**	
155 NE 100th St #302	Project Number: **2218001.020.022**	**Report ID:**
Seattle, WA 98125	Project Manager: **Kate Gauglitz**	**A4G1125 - 08 06 24 1454**

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-07-240710	A4G1125-01	Water	07/10/24 12:37	07/11/24 11:22
MW-12-240710	A4G1125-02	Water	07/10/24 13:55	07/11/24 11:22
MW-16-240710	A4G1125-03	Water	07/10/24 10:41	07/11/24 11:22
MW-17A-240710	A4G1125-04	Water	07/10/24 09:37	07/11/24 11:22
MW-19-240710	A4G1125-05	Water	07/10/24 11:36	07/11/24 11:22
Trip Blank-240710	A4G1125-06	Water	07/10/24 00:00	07/11/24 11:22
Equipment Blank-240710	A4G1125-07	Water	07/10/24 14:35	07/11/24 11:22

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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ORELAP ID: OR100062

ANALYTICAL REPORT

AMENDED REPORT

Landau Associates (Northgate)	Project: Sea-Tac Development Site	
155 NE 100th St #302	Project Number: 2218001.020.022	Report ID:
Seattle, WA 98125	Project Manager: Kate Gauglitz	A4G1125 - 08 06 24 1454

ANALYTICAL CASE NARRATIVE

A4G1125 **Apex Laboratories**

Amended Report Revision 1:

This report supersedes all previous reports.

Sample MW-7 was originally reported for Magnesium instead of Manganese. This report version has been corrected.

Philip Nerenberg
Lab Director
8/6/24

Apex Laboratories

Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

AMENDED REPORT

Landau Associates (Northgate)	Project: **Sea-Tac Development Site**	
155 NE 100th St #302	Project Number: **2218001.020.022**	**Report ID:**
Seattle, WA 98125	Project Manager: **Kate Gauglitz**	**A4G1125 - 08 06 24 1454**

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-12-240710 (A4G1125-02)				**Matrix: Water**		**Batch: 24G0573**		
Gasoline Range Organics	**4130**	50.0	100	ug/L	1	07/18/24 12:07	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 103 %*		*Limits: 50-150 %*	*1*	*07/18/24 12:07*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)		*104 %*		*50-150 %*	*1*	*07/18/24 12:07*	*NWTPH-Gx (MS)*	
Trip Blank-240710 (A4G1125-06)				**Matrix: Water**		**Batch: 24G0573**		**CONT**
Gasoline Range Organics	ND	50.0	100	ug/L	1	07/18/24 11:01	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 93 %*		*Limits: 50-150 %*	*1*	*07/18/24 11:01*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)		*108 %*		*50-150 %*	*1*	*07/18/24 11:01*	*NWTPH-Gx (MS)*	
Equipment Blank-240710 (A4G1125-07)				**Matrix: Water**		**Batch: 24G0573**		
Gasoline Range Organics	ND	50.0	100	ug/L	1	07/18/24 11:23	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 91 %*		*Limits: 50-150 %*	*1*	*07/18/24 11:23*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)		*108 %*		*50-150 %*	*1*	*07/18/24 11:23*	*NWTPH-Gx (MS)*	

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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APEX LABORATORIES

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ORELAP ID: **OR100062**

ANALYTICAL REPORT

AMENDED REPORT

Landau Associates (Northgate)	Project: **Sea-Tac Development Site**	
155 NE 100th St #302	Project Number: **2218001.020.022**	**Report ID:**
Seattle, WA 98125	Project Manager: **Kate Gauglitz**	**A4G1125 - 08 06 24 1454**

ANALYTICAL SAMPLE RESULTS

BTEX Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Trip Blank-240710 (A4G1125-06)				**Matrix: Water**		**Batch: 24G0573**		**CONT**
Benzene	ND	0.100	0.200	ug/L	1	07/18/24 11:01	EPA 8260D	
Toluene	ND	0.500	1.00	ug/L	1	07/18/24 11:01	EPA 8260D	
Ethylbenzene	ND	0.250	0.500	ug/L	1	07/18/24 11:01	EPA 8260D	
Xylenes, total	ND	0.750	1.50	ug/L	1	07/18/24 11:01	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*98 %*	*Limits: 80-120 %*	*1*	*07/18/24 11:01*	*EPA 8260D*	
Toluene-d8 (Surr)			*104 %*	*80-120 %*	*1*	*07/18/24 11:01*	*EPA 8260D*	
4-Bromofluorobenzene (Surr)			*96 %*	*80-120 %*	*1*	*07/18/24 11:01*	*EPA 8260D*	
Equipment Blank-240710 (A4G1125-07)				**Matrix: Water**		**Batch: 24G0573**		
Benzene	ND	0.100	0.200	ug/L	1	07/18/24 11:23	EPA 8260D	
Toluene	ND	0.500	1.00	ug/L	1	07/18/24 11:23	EPA 8260D	
Ethylbenzene	ND	0.250	0.500	ug/L	1	07/18/24 11:23	EPA 8260D	
Xylenes, total	ND	0.750	1.50	ug/L	1	07/18/24 11:23	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*95 %*	*Limits: 80-120 %*	*1*	*07/18/24 11:23*	*EPA 8260D*	
Toluene-d8 (Surr)			*106 %*	*80-120 %*	*1*	*07/18/24 11:23*	*EPA 8260D*	
4-Bromofluorobenzene (Surr)			*94 %*	*80-120 %*	*1*	*07/18/24 11:23*	*EPA 8260D*	

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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APEX LABORATORIES

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ANALYTICAL REPORT

AMENDED REPORT

Landau Associates (Northgate)	Project: **Sea-Tac Development Site**	
155 NE 100th St #302	Project Number: **2218001.020.022**	**Report ID:**
Seattle, WA 98125	Project Manager: **Kate Gauglitz**	**A4G1125 - 08 06 24 1454**

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-12-240710 (A4G1125-02)				**Matrix: Water**		**Batch: 24G0573**		
Benzene	**11.6**	0.100	0.200	ug/L	1	07/18/24 12:07	EPA 8260D	
Toluene	**31.2**	0.500	1.00	ug/L	1	07/18/24 12:07	EPA 8260D	
Ethylbenzene	**194**	0.250	0.500	ug/L	1	07/18/24 12:07	EPA 8260D	
Xylenes, total	**396**	0.750	1.50	ug/L	1	07/18/24 12:07	EPA 8260D	
Naphthalene	**36.3**	2.50	5.00	ug/L	1	07/18/24 12:07	EPA 8260D	
n-Hexane	**38.3**	5.00	10.0	ug/L	1	07/18/24 12:07	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)			*Recovery: 94 %*	*Limits: 80-120 %*	*1*	*07/18/24 12:07*	*EPA 8260D*	
Toluene-d8 (Surr)			*106 %*	*80-120 %*	*1*	*07/18/24 12:07*	*EPA 8260D*	
4-Bromofluorobenzene (Surr)			*87 %*	*80-120 %*	*1*	*07/18/24 12:07*	*EPA 8260D*	

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Philip Nerenberg

Philip Nerenberg, Lab Director

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AMENDED REPORT

Landau Associates (Northgate)	Project: **Sea-Tac Development Site**	
155 NE 100th St #302	Project Number: **2218001.020.022**	**Report ID:**
Seattle, WA 98125	Project Manager: **Kate Gauglitz**	**A4G1125 - 08 06 24 1454**

ANALYTICAL SAMPLE RESULTS

1,2-Dibromoethane (EDB) by EPA 8260D SIM

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-12-240710 (A4G1125-02)				**Matrix: Water**		**Batch: 24G0556**		
1,2-Dibromoethane (EDB)	ND	0.0900	0.0900	ug/L	1	07/17/24 21:34	EPA 8260D SIM	R-02
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*109 %*	*Limits: 80-120 %*	*1*	*07/17/24 21:34*	*EPA 8260D SIM*	
Toluene-d8 (Surr)			*106 %*	*80-120 %*	*1*	*07/17/24 21:34*	*EPA 8260D SIM*	
4-Bromofluorobenzene (Surr)			*89 %*	*80-120 %*	*1*	*07/17/24 21:34*	*EPA 8260D SIM*	

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

AMENDED REPORT

Landau Associates (Northgate)	Project: Sea-Tac Development Site	
155 NE 100th St #302	Project Number: 2218001.020.022	Report ID:
Seattle, WA 98125	Project Manager: Kate Gauglitz	A4G1125 - 08 06 24 1454

ANALYTICAL SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-07-240710 (A4G1125-01)				**Matrix: Water**				
Batch: 24G0571								
Manganese	**2910**	2.50	5.00	ug/L	5	07/18/24 00:10	EPA 200.8 (Diss)	
MW-12-240710 (A4G1125-02RE1)				**Matrix: Water**				
Batch: 24G0724								
Manganese	**22000**	25.0	50.0	ug/L	50	07/23/24 16:50	EPA 200.8 (Diss)	
MW-16-240710 (A4G1125-03)				**Matrix: Water**				
Batch: 24G0571								
Manganese	**1470**	2.50	5.00	ug/L	5	07/18/24 00:21	EPA 200.8 (Diss)	
MW-17A-240710 (A4G1125-04)				**Matrix: Water**				
Batch: 24G0571								
Manganese	**624**	2.50	5.00	ug/L	5	07/18/24 00:26	EPA 200.8 (Diss)	
MW-19-240710 (A4G1125-05)				**Matrix: Water**				
Batch: 24G0571								
Manganese	**256**	2.50	5.00	ug/L	5	07/18/24 00:32	EPA 200.8 (Diss)	

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ANALYTICAL REPORT

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Landau Associates (Northgate)	Project: Sea-Tac Development Site	
155 NE 100th St #302	Project Number: 2218001.020.022	Report ID:
Seattle, WA 98125	Project Manager: Kate Gauglitz	A4G1125 - 08 06 24 1454

ANALYTICAL SAMPLE RESULTS

Ammonia by Gas Diffusion and Colorimetric Detection

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-07-240710 (A4G1125-01)				**Matrix: Water**		**Batch: 24G0455**		
Ammonia as N	**0.156**	0.0100	0.0200	mg/L	1	07/15/24 17:35	SM 4500-NH3 G	
MW-12-240710 (A4G1125-02)				**Matrix: Water**		**Batch: 24G0455**		
Ammonia as N	**0.628**	0.0100	0.0200	mg/L	1	07/15/24 17:36	SM 4500-NH3 G	
MW-16-240710 (A4G1125-03)				**Matrix: Water**		**Batch: 24G0455**		
Ammonia as N	**0.0110**	0.0100	0.0200	mg/L	1	07/15/24 17:38	SM 4500-NH3 G	**J**
MW-17A-240710 (A4G1125-04RE1)				**Matrix: Water**		**Batch: 24G0478**		
Ammonia as N	ND	0.0100	0.0200	mg/L	1	07/16/24 16:05	SM 4500-NH3 G	
MW-19-240710 (A4G1125-05RE1)				**Matrix: Water**		**Batch: 24G0478**		
Ammonia as N	**0.0130**	0.0100	0.0200	mg/L	1	07/16/24 16:07	SM 4500-NH3 G	**J**

Apex Laboratories

Philip Nerenberg, Lab Director

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Landau Associates (Northgate)	Project: **Sea-Tac Development Site**	
155 NE 100th St #302	Project Number: **2218001.020.022**	**Report ID:**
Seattle, WA 98125	Project Manager: **Kate Gauglitz**	**A4G1125 - 08 06 24 1454**

ANALYTICAL SAMPLE RESULTS

Anions by Ion Chromatography

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-07-240710 (A4G1125-01)				**Matrix: Water**				
Batch: 24G0332								
Nitrate-Nitrogen	ND	0.125	0.250	mg/L	1	07/11/24 18:07	EPA 300.0	
Nitrite-Nitrogen	ND	0.125	0.250	mg/L	1	07/11/24 18:07	EPA 300.0	
Sulfate	**4.56**	0.500	1.00	mg/L	1	07/11/24 18:07	EPA 300.0	
MW-12-240710 (A4G1125-02)				**Matrix: Water**				
Batch: 24G0332								
Nitrate-Nitrogen	ND	0.125	0.250	mg/L	1	07/11/24 18:29	EPA 300.0	
Nitrite-Nitrogen	ND	0.125	0.250	mg/L	1	07/11/24 18:29	EPA 300.0	
Sulfate	**4.38**	0.500	1.00	mg/L	1	07/11/24 18:29	EPA 300.0	
MW-16-240710 (A4G1125-03)				**Matrix: Water**				
Batch: 24G0332								
Nitrate-Nitrogen	**0.170**	0.125	0.250	mg/L	1	07/11/24 18:50	EPA 300.0	**J**
Nitrite-Nitrogen	ND	0.125	0.250	mg/L	1	07/11/24 18:50	EPA 300.0	
Sulfate	**7.26**	0.500	1.00	mg/L	1	07/11/24 18:50	EPA 300.0	
MW-17A-240710 (A4G1125-04)				**Matrix: Water**				
Batch: 24G0332								
Nitrate-Nitrogen	**6.15**	0.625	1.25	mg/L	5	07/11/24 19:12	EPA 300.0	
MW-17A-240710 (A4G1125-04RE2)				**Matrix: Water**				
Batch: 24G0380								
Nitrite-Nitrogen	ND	0.125	0.250	mg/L	1	07/12/24 11:56	EPA 300.0	H-01
Sulfate	**36.8**	0.500	1.00	mg/L	1	07/12/24 11:56	EPA 300.0	
MW-19-240710 (A4G1125-05)				**Matrix: Water**				
Batch: 24G0332								
Nitrate-Nitrogen	**0.147**	0.125	0.250	mg/L	1	07/11/24 19:33	EPA 300.0	**J**
Nitrite-Nitrogen	ND	0.125	0.250	mg/L	1	07/11/24 19:33	EPA 300.0	
Sulfate	**16.0**	0.500	1.00	mg/L	1	07/11/24 19:33	EPA 300.0	

Apex Laboratories

Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

AMENDED REPORT

Landau Associates (Northgate)	Project: Sea-Tac Development Site	
155 NE 100th St #302	Project Number: 2218001.020.022	Report ID:
Seattle, WA 98125	Project Manager: Kate Gauglitz	A4G1125 - 08 06 24 1454

ANALYTICAL SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-07-240710 (A4G1125-01)				**Matrix: Water**				
Batch: 24G0426								
Total Alkalinity	**113**	20.0	20.0	mg CaCO3/L	1	07/15/24 12:34	SM 2320 B	
MW-12-240710 (A4G1125-02)				**Matrix: Water**				
Batch: 24G0426								
Total Alkalinity	**273**	20.0	20.0	mg CaCO3/L	1	07/15/24 13:24	SM 2320 B	
MW-16-240710 (A4G1125-03)				**Matrix: Water**				
Batch: 24G0426								
Total Alkalinity	**21.4**	20.0	20.0	mg CaCO3/L	1	07/15/24 14:13	SM 2320 B	
MW-17A-240710 (A4G1125-04)				**Matrix: Water**				
Batch: 24G0426								
Total Alkalinity	**61.8**	20.0	20.0	mg CaCO3/L	1	07/15/24 14:35	SM 2320 B	
MW-19-240710 (A4G1125-05)				**Matrix: Water**				
Batch: 24G0426								
Total Alkalinity	**70.2**	20.0	20.0	mg CaCO3/L	1	07/15/24 16:20	SM 2320 B	

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Philip Nerenberg, Lab Director

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ORELAP ID: **OR100062**

Landau Associates (Northgate)	Project: **Sea-Tac Development Site**	
155 NE 100th St #302	Project Number: **2218001.020.022**	**Report ID:**
Seattle, WA 98125	Project Manager: **Kate Gauglitz**	**A4G1125 - 08 06 24 1454**

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0573 - EPA 5030C												**Water**
Blank (24G0573-BLK1)				Prepared: 07/18/24 06:54		Analyzed: 07/18/24 10:03						
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	50.0	100	ug/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 92 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*106 %*	*50-150 %*			*"*					
LCS (24G0573-BS2)				Prepared: 07/18/24 06:54		Analyzed: 07/18/24 09:41						
NWTPH-Gx (MS)												
Gasoline Range Organics	549	50.0	100	ug/L	1	500	---	110	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 96 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*105 %*	*50-150 %*			*"*					
Duplicate (24G0573-DUP1)				Prepared: 07/18/24 06:54		Analyzed: 07/18/24 12:29						
QC Source Sample: MW-12-240710 (A4G1125-02)												
NWTPH-Gx (MS)												
Gasoline Range Organics	**4150**	50.0	100	ug/L	1	---	4130	---	---	0.4	30%	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 103 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*105 %*	*50-150 %*			*"*					

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Philip Nerenberg

Philip Nerenberg, Lab Director

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6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

Landau Associates (Northgate)	Project: **Sea-Tac Development Site**	
155 NE 100th St #302	Project Number: **2218001.020.022**	**Report ID:**
Seattle, WA 98125	Project Manager: **Kate Gauglitz**	**A4G1125 - 08 06 24 1454**

QUALITY CONTROL (QC) SAMPLE RESULTS

BTEX Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0573 - EPA 5030C												**Water**
Blank (24G0573-BLK1)			Prepared: 07/18/24 06:54 Analyzed: 07/18/24 10:03									
EPA 8260D												
Benzene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Toluene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Ethylbenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Xylenes, total	ND	0.750	1.50	ug/L	1	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 96 %*	*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)			*106 %*	*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)			*94 %*	*80-120 %*			*"*					
LCS (24G0573-BS1)			Prepared: 07/18/24 06:54 Analyzed: 07/18/24 09:07									
EPA 8260D												
Benzene	20.7	0.100	0.200	ug/L	1	20.0	---	103	80-120%	---	---	
Toluene	20.8	0.500	1.00	ug/L	1	20.0	---	104	80-120%	---	---	
Ethylbenzene	22.5	0.250	0.500	ug/L	1	20.0	---	113	80-120%	---	---	
Xylenes, total	68.2	0.750	1.50	ug/L	1	60.0	---	114	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 97 %*	*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)			*103 %*	*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)			*87 %*	*80-120 %*			*"*					
Duplicate (24G0573-DUP1)			Prepared: 07/18/24 06:54 Analyzed: 07/18/24 12:29									
QC Source Sample: MW-12-240710 (A4G1125-02)												
EPA 8260D												
Benzene	**11.4**	0.100	0.200	ug/L	1	---	11.6	---	---	1	30%	
Toluene	**30.6**	0.500	1.00	ug/L	1	---	31.2	---	---	2	30%	
Ethylbenzene	**195**	0.250	0.500	ug/L	1	---	194	---	---	0.4	30%	
Xylenes, total	**392**	0.750	1.50	ug/L	1	---	396	---	---	1	30%	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 96 %*	*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)			*104 %*	*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)			*90 %*	*80-120 %*			*"*					
Matrix Spike (24G0573-MS1)			Prepared: 07/18/24 06:54 Analyzed: 07/18/24 13:13									
QC Source Sample: Non-SDG (A4G1267-01)												
EPA 8260D												

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Philip Nerenberg

Philip Nerenberg, Lab Director

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ORELAP ID: OR100062

ANALYTICAL REPORT

AMENDED REPORT

Landau Associates (Northgate)	Project: **Sea-Tac Development Site**	
155 NE 100th St #302	Project Number: **2218001.020.022**	**Report ID:**
Seattle, WA 98125	Project Manager: **Kate Gauglitz**	**A4G1125 - 08 06 24 1454**

QUALITY CONTROL (QC) SAMPLE RESULTS

BTEX Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0573 - EPA 5030C							**Water**					
Matrix Spike (24G0573-MS1)			Prepared: 07/18/24 06:54 Analyzed: 07/18/24 13:13									
QC Source Sample: Non-SDG (A4G1267-01)												
Benzene	21.3	0.100	0.200	ug/L	1	20.0	ND	106	79-120%	---	---	
Toluene	21.8	0.500	1.00	ug/L	1	20.0	ND	109	80-121%	---	---	
Ethylbenzene	23.8	0.250	0.500	ug/L	1	20.0	ND	119	79-121%	---	---	
Xylenes, total	71.8	0.750	1.50	ug/L	1	60.0	ND	120	79-121%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 93 %*		*Limits: 80-120 %*			*Dilution: 1x*				
Toluene-d8 (Surr)			*102 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*90 %*		*80-120 %*			*"*				

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Philip Nerenberg, Lab Director

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Landau Associates (Northgate)	Project: **Sea-Tac Development Site**	
155 NE 100th St #302	Project Number: **2218001.020.022**	**Report ID:**
Seattle, WA 98125	Project Manager: **Kate Gauglitz**	**A4G1125 - 08 06 24 1454**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0573 - EPA 5030C												**Water**
Blank (24G0573-BLK1)			Prepared: 07/18/24 06:54 Analyzed: 07/18/24 10:03									
EPA 8260D												
Benzene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Toluene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Ethylbenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Xylenes, total	ND	0.750	1.50	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
n-Hexane	ND	5.00	10.0	ug/L	1	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 96 %*		*Limits: 80-120 %*				*Dilution: 1x*			
Toluene-d8 (Surr)			*106 %*		*80-120 %*				*"*			
4-Bromofluorobenzene (Surr)			*94 %*		*80-120 %*				*"*			
LCS (24G0573-BS1)			Prepared: 07/18/24 06:54 Analyzed: 07/18/24 09:07									
EPA 8260D												
Benzene	20.7	0.100	0.200	ug/L	1	20.0	---	103	80-120%	---	---	
Toluene	20.8	0.500	1.00	ug/L	1	20.0	---	104	80-120%	---	---	
Ethylbenzene	22.5	0.250	0.500	ug/L	1	20.0	---	113	80-120%	---	---	
Xylenes, total	68.2	0.750	1.50	ug/L	1	60.0	---	114	80-120%	---	---	
Naphthalene	18.2	2.50	5.00	ug/L	1	20.0	---	91	80-120%	---	---	
n-Hexane	19.4	5.00	10.0	ug/L	1	20.0	---	97	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 97 %*		*Limits: 80-120 %*				*Dilution: 1x*			
Toluene-d8 (Surr)			*103 %*		*80-120 %*				*"*			
4-Bromofluorobenzene (Surr)			*87 %*		*80-120 %*				*"*			
Duplicate (24G0573-DUP1)			Prepared: 07/18/24 06:54 Analyzed: 07/18/24 12:29									
QC Source Sample: MW-12-240710 (A4G1125-02)												
EPA 8260D												
Benzene	**11.4**	0.100	0.200	ug/L	1	---	11.6	---	---	1	30%	
Toluene	**30.6**	0.500	1.00	ug/L	1	---	31.2	---	---	2	30%	
Ethylbenzene	**195**	0.250	0.500	ug/L	1	---	194	---	---	0.4	30%	
Xylenes, total	**392**	0.750	1.50	ug/L	1	---	396	---	---	1	30%	
Naphthalene	**37.6**	2.50	5.00	ug/L	1	---	36.3	---	---	3	30%	
n-Hexane	**45.0**	5.00	10.0	ug/L	1	---	38.3	---	---	16	30%	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 96 %*		*Limits: 80-120 %*				*Dilution: 1x*			

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Philip Nerenberg, Lab Director

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503-718-2323
ORELAP ID: OR100062

ANALYTICAL REPORT

AMENDED REPORT

Landau Associates (Northgate)	Project: Sea-Tac Development Site	
155 NE 100th St #302	Project Number: 2218001.020.022	Report ID:
Seattle, WA 98125	Project Manager: Kate Gauglitz	A4G1125 - 08 06 24 1454

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0573 - EPA 5030C									Water			
Duplicate (24G0573-DUP1)				Prepared: 07/18/24 06:54 Analyzed: 07/18/24 12:29								
QC Source Sample: MW-12-240710 (A4G1125-02)												
Surr: Toluene-d8 (Surr)			*Recovery: 104 %*	*Limits: 80-120 %*			*Dilution: 1x*					
4-Bromofluorobenzene (Surr)			*90 %*	*80-120 %*			*"*					
Matrix Spike (24G0573-MS1)				Prepared: 07/18/24 06:54 Analyzed: 07/18/24 13:13								
QC Source Sample: Non-SDG (A4G1267-01)												
EPA 8260D												
Benzene	21.3	0.100	0.200	ug/L	1	20.0	ND	106	79-120%	---	---	
Toluene	21.8	0.500	1.00	ug/L	1	20.0	ND	109	80-121%	---	---	
Ethylbenzene	23.8	0.250	0.500	ug/L	1	20.0	ND	119	79-121%	---	---	
Xylenes, total	71.8	0.750	1.50	ug/L	1	60.0	ND	120	79-121%	---	---	
Naphthalene	20.6	2.50	5.00	ug/L	1	20.0	ND	103	61-128%	---	---	
n-Hexane	24.8	5.00	10.0	ug/L	1	20.0	ND	124	48-143%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 93 %*	*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)			*102 %*	*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)			*90 %*	*80-120 %*			*"*					

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Landau Associates (Northgate)	Project: **Sea-Tac Development Site**	
155 NE 100th St #302	Project Number: **2218001.020.022**	**Report ID:**
Seattle, WA 98125	Project Manager: **Kate Gauglitz**	**A4G1125 - 08 06 24 1454**

QUALITY CONTROL (QC) SAMPLE RESULTS

1,2-Dibromoethane (EDB) by EPA 8260D SIM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0556 - EPA 5030C									**Water**			
Blank (24G0556-BLK1)			Prepared: 07/17/24 13:05 Analyzed: 07/17/24 16:11									
EPA 8260D SIM												
1,2-Dibromoethane (EDB)	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 92 %*	*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)			*98 %*	*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)			*101 %*	*80-120 %*			*"*					
LCS (24G0556-BS1)			Prepared: 07/17/24 13:05 Analyzed: 07/17/24 15:13									
EPA 8260D SIM												
1,2-Dibromoethane (EDB)	0.218	0.0100	0.0200	ug/L	1	0.200	---	109	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 91 %*	*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)			*97 %*	*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)			*97 %*	*80-120 %*			*"*					
Duplicate (24G0556-DUP1)			Prepared: 07/17/24 13:05 Analyzed: 07/17/24 21:07									
QC Source Sample: Non-SDG (A4G1121-10)												
1,2-Dibromoethane (EDB)	ND	0.0100	0.0200	ug/L	1	---	ND	---	---	---	30%	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 94 %*	*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)			*98 %*	*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)			*99 %*	*80-120 %*			*"*					
Matrix Spike (24G0556-MS1)			Prepared: 07/17/24 13:05 Analyzed: 07/17/24 22:28									
QC Source Sample: Non-SDG (A4G1121-01)												
EPA 8260D SIM												
1,2-Dibromoethane (EDB)	0.245	0.0100	0.0200	ug/L	1	0.200	ND	**123**	**77-121%**	---	---	Q-01
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 95 %*	*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)			*99 %*	*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)			*97 %*	*80-120 %*			*"*					

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ANALYTICAL REPORT

AMENDED REPORT

Landau Associates (Northgate)	Project: Sea-Tac Development Site	
155 NE 100th St #302	Project Number: 2218001.020.022	Report ID:
Seattle, WA 98125	Project Manager: Kate Gauglitz	A4G1125 - 08 06 24 1454

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0571 - Matrix Matched Direct Inject									Water			
Blank (24G0571-BLK1)			Prepared: 07/17/24 17:38 Analyzed: 07/17/24 23:26									
EPA 200.8 (Diss)												
Manganese	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
LCS (24G0571-BS1)			Prepared: 07/17/24 17:38 Analyzed: 07/17/24 23:32									
EPA 200.8 (Diss)												
Manganese	57.4	0.500	1.00	ug/L	1	55.6	---	103	85-115%	---	---	
Duplicate (24G0571-DUP1)			Prepared: 07/17/24 17:38 Analyzed: 07/17/24 23:43									
QC Source Sample: Non-SDG (A4G1003-02)												
Manganese	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	20%	R-04
Matrix Spike (24G0571-MS1)			Prepared: 07/17/24 17:38 Analyzed: 07/17/24 23:54									
QC Source Sample: Non-SDG (A4G1003-05)												
EPA 200.8 (Diss)												
Manganese	122	5.00	10.0	ug/L	10	55.6	66.0	101	70-130%	---	---	
Matrix Spike (24G0571-MS2)			Prepared: 07/17/24 17:38 Analyzed: 07/18/24 00:15									
QC Source Sample: MW-07-240710 (A4G1125-01)												
EPA 200.8 (Diss)												
Manganese	2970	2.50	5.00	ug/L	5	55.6	2910	106	70-130%	---	---	

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Seattle, WA 98125	Project Manager: **Kate Gauglitz**	**A4G1125 - 08 06 24 1454**

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0724 - Matrix Matched Direct Inject									Water			
Blank (24G0724-BLK1)			Prepared: 07/22/24 14:59		Analyzed: 07/22/24 23:02							
EPA 200.8 (Diss)												
Manganese	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
LCS (24G0724-BS1)			Prepared: 07/22/24 14:59		Analyzed: 07/22/24 23:07							
EPA 200.8 (Diss)												
Manganese	54.0	0.500	1.00	ug/L	1	55.6	---	97	85-115%	---	---	
Duplicate (24G0724-DUP1)			Prepared: 07/22/24 14:59		Analyzed: 07/22/24 23:18							
QC Source Sample: Non-SDG (A4G1121-01)												
Manganese	**77.7**	0.500	1.00	ug/L	1	---	82.4	---	---	6	20%	
Matrix Spike (24G0724-MS1)			Prepared: 07/22/24 14:59		Analyzed: 07/22/24 23:28							
QC Source Sample: Non-SDG (A4G1121-02)												
EPA 200.8 (Diss)												
Manganese	5500	0.500	1.00	ug/L	1	55.6	5780	**-514**	**70-130%**	---	---	E, Q-65

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Landau Associates (Northgate)	Project: **Sea-Tac Development Site**	
155 NE 100th St #302	Project Number: **2218001.020.022**	**Report ID:**
Seattle, WA 98125	Project Manager: **Kate Gauglitz**	**A4G1125 - 08 06 24 1454**

QUALITY CONTROL (QC) SAMPLE RESULTS

Ammonia by Gas Diffusion and Colorimetric Detection

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0455 - Method Prep: Aq									Water			
Blank (24G0455-BLK1)			Prepared: 07/15/24 15:09		Analyzed: 07/15/24 16:49							
SM 4500-NH3 G												
Ammonia as N	ND	0.0100	0.0200	mg/L	1	---	---	---	---	---	---	
LCS (24G0455-BS1)			Prepared: 07/15/24 15:09		Analyzed: 07/15/24 16:51							
SM 4500-NH3 G												
Ammonia as N	1.99	0.0100	0.0200	mg/L	1	2.00	---	99	90-111%	---	---	
Matrix Spike (24G0455-MS1)			Prepared: 07/15/24 15:09		Analyzed: 07/15/24 16:55							
QC Source Sample: Non-SDG (A4G1066-01)												
SM 4500-NH3 G												
Ammonia as N	2.48	0.0125	0.0250	mg/L	1	2.50	0.0690	96	90-111%	---	---	
Matrix Spike Dup (24G0455-MSD1)			Prepared: 07/15/24 15:09		Analyzed: 07/15/24 16:57							
QC Source Sample: Non-SDG (A4G1066-01)												
Ammonia as N	2.55	0.0125	0.0250	mg/L	1	2.50	0.0690	99	90-111%	3	13%	

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Landau Associates (Northgate)	Project: **Sea-Tac Development Site**	
155 NE 100th St #302	Project Number: **2218001.020.022**	**Report ID:**
Seattle, WA 98125	Project Manager: **Kate Gauglitz**	**A4G1125 - 08 06 24 1454**

QUALITY CONTROL (QC) SAMPLE RESULTS

Ammonia by Gas Diffusion and Colorimetric Detection

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0478 - Method Prep: Aq									Water			
Blank (24G0478-BLK1)			Prepared: 07/16/24 09:10		Analyzed: 07/16/24 15:58							
SM 4500-NH3 G												
Ammonia as N	ND	0.0100	0.0200	mg/L	1	---	---	---	---	---	---	
LCS (24G0478-BS1)			Prepared: 07/16/24 09:10		Analyzed: 07/16/24 15:59							
SM 4500-NH3 G												
Ammonia as N	2.01	0.0100	0.0200	mg/L	1	2.00	---	101	90-111%	---	---	
Matrix Spike (24G0478-MS1)			Prepared: 07/16/24 09:10		Analyzed: 07/16/24 16:31							
QC Source Sample: Non-SDG (A4G1130-02)												
SM 4500-NH3 G												
Ammonia as N	2.60	0.0125	0.0250	mg/L	1	2.50	0.125	99	90-111%	---	---	
Matrix Spike Dup (24G0478-MSD1)			Prepared: 07/16/24 09:10		Analyzed: 07/16/24 16:32							
QC Source Sample: Non-SDG (A4G1130-02)												
Ammonia as N	2.62	0.0125	0.0250	mg/L	1	2.50	0.125	100	90-111%	0.7	13%	

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503-718-2323
ORELAP ID: **OR100062**

Landau Associates (Northgate)	Project: **Sea-Tac Development Site**	
155 NE 100th St #302	Project Number: **2218001.020.022**	**Report ID:**
Seattle, WA 98125	Project Manager: **Kate Gauglitz**	**A4G1125 - 08 06 24 1454**

QUALITY CONTROL (QC) SAMPLE RESULTS

Anions by Ion Chromatography

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0332 - Method Prep: Aq									Water			
Blank (24G0332-BLK1)			Prepared: 07/11/24 10:27		Analyzed: 07/11/24 11:44							
EPA 300.0												
Nitrate-Nitrogen	ND	0.125	0.250	mg/L	1	---	---	---	---	---	---	
Nitrite-Nitrogen	ND	0.125	0.250	mg/L	1	---	---	---	---	---	---	
Sulfate	ND	0.500	1.00	mg/L	1	---	---	---	---	---	---	
LCS (24G0332-BS1)			Prepared: 07/11/24 10:27		Analyzed: 07/11/24 12:06							
EPA 300.0												
Nitrate-Nitrogen	2.12	0.125	0.250	mg/L	1	2.00	---	106	90-110%	---	---	
Nitrite-Nitrogen	2.11	0.125	0.250	mg/L	1	2.00	---	106	90-110%	---	---	
Sulfate	8.66	0.500	1.00	mg/L	1	8.00	---	108	90-110%	---	---	
Duplicate (24G0332-DUP1)			Prepared: 07/11/24 10:27		Analyzed: 07/11/24 12:49							
QC Source Sample: Non-SDG (A4G1106-01)												
Sulfate	**84.1**	2.50	5.00	mg/L	5	---	81.4	---	---	3	4%	
Duplicate (24G0332-DUP2)			Prepared: 07/11/24 10:27		Analyzed: 07/11/24 13:53							
QC Source Sample: Non-SDG (A4G1106-01RE1)												
Nitrate-Nitrogen	ND	0.125	0.250	mg/L	1	---	ND	---	---	---	3%	H-01, Q-16
Nitrite-Nitrogen	ND	0.125	0.250	mg/L	1	---	ND	---	---	---	10%	H-01, Q-16
Matrix Spike (24G0332-MS1)			Prepared: 07/11/24 10:27		Analyzed: 07/11/24 13:10							
QC Source Sample: Non-SDG (A4G1106-01)												
EPA 300.0												
Sulfate	128	2.50	5.00	mg/L	5	40.0	81.4	**116**	**88-115%**	---	---	Q-03
Matrix Spike (24G0332-MS2)			Prepared: 07/11/24 10:27		Analyzed: 07/11/24 14:15							
QC Source Sample: Non-SDG (A4G1106-01RE1)												
EPA 300.0												
Nitrate-Nitrogen	2.64	0.156	0.312	mg/L	1	2.50	ND	106	87-112%	---	---	H-01, Q-16
Nitrite-Nitrogen	2.64	0.156	0.312	mg/L	1	2.50	ND	105	90-114%	---	---	Q-16

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QUALITY CONTROL (QC) SAMPLE RESULTS

Anions by Ion Chromatography

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0380 - Method Prep: Aq									Water			
Blank (24G0380-BLK1)			Prepared: 07/12/24 09:27		Analyzed: 07/12/24 11:13							
EPA 300.0												
Nitrite-Nitrogen	ND	0.125	0.250	mg/L	1	---	---	---	---	---	---	
Sulfate	ND	0.500	1.00	mg/L	1	---	---	---	---	---	---	
LCS (24G0380-BS1)			Prepared: 07/12/24 09:27		Analyzed: 07/12/24 11:35							
EPA 300.0												
Nitrite-Nitrogen	2.09	0.125	0.250	mg/L	1	2.00	---	105	90-110%	---	---	
Sulfate	8.45	0.500	1.00	mg/L	1	8.00	---	106	90-110%	---	---	
Duplicate (24G0380-DUP1)			Prepared: 07/12/24 09:27		Analyzed: 07/12/24 12:18							
QC Source Sample: MW-17A-240710 (A4G1125-04RE2)												
EPA 300.0												
Nitrite-Nitrogen	ND	0.125	0.250	mg/L	1	---	ND	---	---	---	10%	H-01
Sulfate	**37.7**	0.500	1.00	mg/L	1	---	36.8	---	---	2	4%	
Matrix Spike (24G0380-MS1)			Prepared: 07/12/24 09:27		Analyzed: 07/12/24 12:40							
QC Source Sample: MW-17A-240710 (A4G1125-04RE2)												
EPA 300.0												
Nitrite-Nitrogen	2.59	0.156	0.312	mg/L	1	2.50	ND	104	90-114%	---	---	H-01
Sulfate	48.3	0.625	1.25	mg/L	1	10.0	36.8	114	88-115%	---	---	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Conventional Chemistry Parameters

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0426 - Method Prep: Aq									Water			
Blank (24G0426-BLK1)				Prepared: 07/15/24 09:26 Analyzed: 07/15/24 11:14								
SM 2320 B												
Total Alkalinity	ND	20.0	20.0	mg CaCO3/L	1	---	---	---	---	---	---	
Bicarbonate Alkalinity	ND	20.0	20.0	mg CaCO3/L	1	---	---	---	---	---	---	
Carbonate Alkalinity	ND	20.0	20.0	mg CaCO3/L	1	---	---	---	---	---	---	
Hydroxide Alkalinity	ND	20.0	20.0	mg CaCO3/L	1	---	---	---	---	---	---	
LCS (24G0426-BS1)				Prepared: 07/15/24 09:26 Analyzed: 07/15/24 11:23								
SM 2320 B												
Total Alkalinity	108	20.0	20.0	mg CaCO3/L	1	100	---	108	90-115%	---	---	
Duplicate (24G0426-DUP1)				Prepared: 07/15/24 09:26 Analyzed: 07/15/24 13:50								
QC Source Sample: MW-12-240710 (A4G1125-02)												
SM 2320 B												
Total Alkalinity	**274**	20.0	20.0	mg CaCO3/L	1	---	273	---	---	0.2	5%	
Bicarbonate Alkalinity	**274**	20.0	20.0	mg CaCO3/L	1	---	273	---	---	0.2	5%	
Carbonate Alkalinity	ND	20.0	20.0	mg CaCO3/L	1	---	ND	---	---	---	5%	
Hydroxide Alkalinity	ND	20.0	20.0	mg CaCO3/L	1	---	ND	---	---	---	5%	

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SAMPLE PREPARATION INFORMATION

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5030C

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24G0573							
A4G1125-02	Water	NWTPH-Gx (MS)	07/10/24 13:55	07/18/24 10:04	5mL/5mL	5mL/5mL	1.00
A4G1125-06	Water	NWTPH-Gx (MS)	07/10/24 00:00	07/18/24 10:04	5mL/5mL	5mL/5mL	1.00
A4G1125-07	Water	NWTPH-Gx (MS)	07/10/24 14:35	07/18/24 10:04	5mL/5mL	5mL/5mL	1.00

BTEX Compounds by EPA 8260D

Prep: EPA 5030C

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24G0573							
A4G1125-06	Water	EPA 8260D	07/10/24 00:00	07/18/24 10:04	5mL/5mL	5mL/5mL	1.00
A4G1125-07	Water	EPA 8260D	07/10/24 14:35	07/18/24 10:04	5mL/5mL	5mL/5mL	1.00

Selected Volatile Organic Compounds by EPA 8260D

Prep: EPA 5030C

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24G0573							
A4G1125-02	Water	EPA 8260D	07/10/24 13:55	07/18/24 10:04	5mL/5mL	5mL/5mL	1.00

1,2-Dibromoethane (EDB) by EPA 8260D SIM

Prep: EPA 5030C

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24G0556							
A4G1125-02	Water	EPA 8260D SIM	07/10/24 13:55	07/17/24 13:05	5mL/5mL	5mL/5mL	1.00

Dissolved Metals by EPA 200.8 (ICPMS)

Prep: Matrix Matched Direct Inject

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24G0571							
A4G1125-01	Water	EPA 200.8 (Diss)	07/10/24 12:37	07/17/24 17:38	45mL/50mL	45mL/50mL	1.00
A4G1125-03	Water	EPA 200.8 (Diss)	07/10/24 10:41	07/17/24 17:38	45mL/50mL	45mL/50mL	1.00
A4G1125-04	Water	EPA 200.8 (Diss)	07/10/24 09:37	07/17/24 17:38	45mL/50mL	45mL/50mL	1.00
A4G1125-05	Water	EPA 200.8 (Diss)	07/10/24 11:36	07/17/24 17:38	45mL/50mL	45mL/50mL	1.00

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ANALYTICAL REPORT

AMENDED REPORT

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Seattle, WA 98125	Project Manager: Kate Gauglitz	A4G1125 - 08 06 24 1454

SAMPLE PREPARATION INFORMATION

Dissolved Metals by EPA 200.8 (ICPMS)

Prep: Matrix Matched Direct Inject

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24G0724							
A4G1125-02RE1	Water	EPA 200.8 (Diss)	07/10/24 13:55	07/22/24 14:59	45mL/50mL	45mL/50mL	1.00

Ammonia by Gas Diffusion and Colorimetric Detection

Prep: Method Prep: Aq

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24G0455							
A4G1125-01	Water	SM 4500-NH3 G	07/10/24 12:37	07/15/24 15:09	10mL/10mL	10mL/10mL	1.00
A4G1125-02	Water	SM 4500-NH3 G	07/10/24 13:55	07/15/24 15:09	10mL/10mL	10mL/10mL	1.00
A4G1125-03	Water	SM 4500-NH3 G	07/10/24 10:41	07/15/24 15:09	10mL/10mL	10mL/10mL	1.00
Batch: 24G0478							
A4G1125-04RE1	Water	SM 4500-NH3 G	07/10/24 09:37	07/16/24 09:10	10mL/10mL	10mL/10mL	1.00
A4G1125-05RE1	Water	SM 4500-NH3 G	07/10/24 11:36	07/16/24 09:10	10mL/10mL	10mL/10mL	1.00

Anions by Ion Chromatography

Prep: Method Prep: Aq

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24G0332							
A4G1125-01	Water	EPA 300.0	07/10/24 12:37	07/11/24 15:30	5mL/5mL	5mL/5mL	1.00
A4G1125-02	Water	EPA 300.0	07/10/24 13:55	07/11/24 15:30	5mL/5mL	5mL/5mL	1.00
A4G1125-03	Water	EPA 300.0	07/10/24 10:41	07/11/24 15:30	5mL/5mL	5mL/5mL	1.00
A4G1125-04	Water	EPA 300.0	07/10/24 09:37	07/11/24 15:30	5mL/5mL	5mL/5mL	1.00
A4G1125-05	Water	EPA 300.0	07/10/24 11:36	07/11/24 15:30	5mL/5mL	5mL/5mL	1.00
Batch: 24G0380							
A4G1125-04RE2	Water	EPA 300.0	07/10/24 09:37	07/12/24 09:27	5mL/5mL	5mL/5mL	1.00

Conventional Chemistry Parameters

Prep: Method Prep: Aq

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24G0426							
A4G1125-01	Water	SM 2320 B	07/10/24 12:37	07/15/24 09:26	60mL/60mL	60mL/60mL	NA
A4G1125-02	Water	SM 2320 B	07/10/24 13:55	07/15/24 09:26	60mL/60mL	60mL/60mL	NA
A4G1125-03	Water	SM 2320 B	07/10/24 10:41	07/15/24 09:26	60mL/60mL	60mL/60mL	NA

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Seattle, WA 98125	Project Manager: **Kate Gauglitz**	**A4G1125 - 08 06 24 1454**

SAMPLE PREPARATION INFORMATION

Conventional Chemistry Parameters

Prep: Method Prep: Aq

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A4G1125-04	Water	SM 2320 B	07/10/24 09:37	07/15/24 09:26	60mL/60mL	60mL/60mL	NA
A4G1125-05	Water	SM 2320 B	07/10/24 11:36	07/15/24 09:26	60mL/60mL	60mL/60mL	NA

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QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

CONT	The Sample Container provided for this analysis was not provided by Apex Laboratories, and has not been verified as part of the Apex Quality System.
E	Estimated Value. The result is above the calibration range of the instrument.
H-01	Analyzed outside the recommended holding time.
J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified DL.
Q-01	Spike recovery and/or RPD is outside acceptance limits.
Q-03	Spike recovery and/or RPD is outside control limits due to the high concentration of analyte present in the sample.
Q-16	Reanalysis of an original Batch QC sample.
Q-65	Spike recovery is estimated due to the high analyte concentration of the source sample.
R-02	The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
R-04	Reporting levels elevated due to preparation and/or analytical dilution necessary for analysis.

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REPORTING NOTES AND CONVENTIONS:

Abbreviations:

DET Analyte DETECTED at or above the detection or reporting limit.

ND Analyte NOT DETECTED at or above the detection or reporting limit.

NR Result Not Reported

RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as " dry", " wet", or " " (blank) designation.

" dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.

" wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.

" " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

Results for Volatiles analyses on soils and sediments that are reported on a “dry weight” basis include the water miscible solvent (WMS) correction referenced in the EPA 8000 Method guidance documents. Solid and Liquid samples reported on an “As Received” basis do not have the WMS correction applied, as dry weight was not performed.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) may not be included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

" --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

" *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

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REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to one half of the Reporting Limit (RL).
Blank results for gravimetric analyses are evaluated to the Reporting Level, not to half of the Reporting Level.
-For Blank hits falling between ½ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.
-Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.
'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level, if results are not reported to the MDL.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

Apex Laboratories

Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document(s) and updated by any subsequent written communications. This analytical report must be reproduced in its entirety.

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

Landau Associates (Northgate)	Project: **Sea-Tac Development Site**	
155 NE 100th St #302	Project Number: **2218001.020.022**	**Report ID:**
Seattle, WA 98125	Project Manager: **Kate Gauglitz**	**A4G1125 - 08 06 24 1454**

LABORATORY ACCREDITATION INFORMATION

ORELAP Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation

All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation.
Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provded by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

Apex Laboratories, LLC
6700 S.W. Sandburg Street
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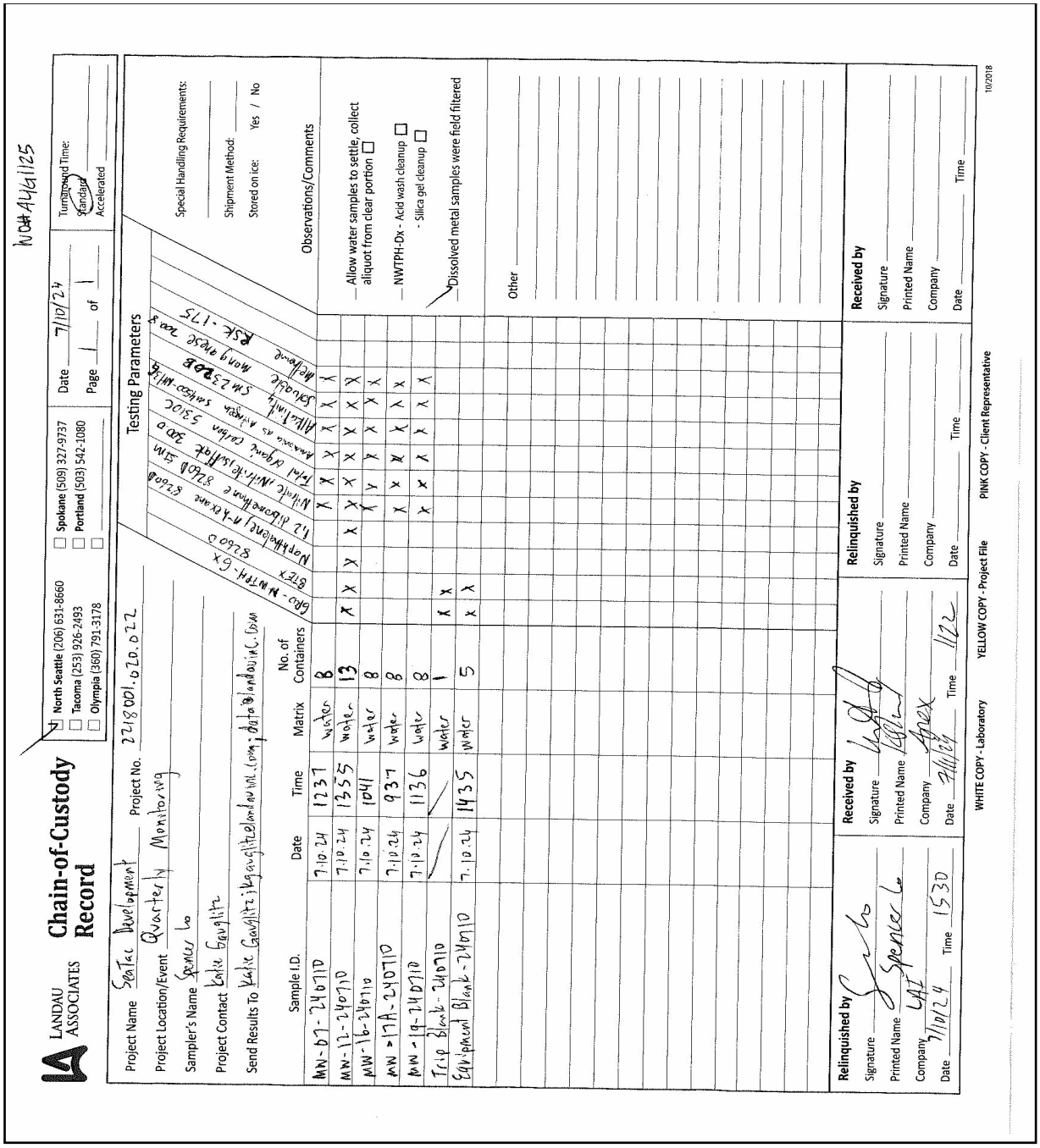
503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

AMENDED REPORT

Landau Associates (Northgate)	Project: **Sea-Tac Development Site**	
155 NE 100th St #302	Project Number: **2218001.020.022**	**Report ID:**
Seattle, WA 98125	Project Manager: **Kate Gauglitz**	**A4G1125 - 08 06 24 1454**



Apex Laboratories

Philip Nerenberg

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Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

AMENDED REPORT

Landau Associates (Northgate)	Project: **Sea-Tac Development Site**	
155 NE 100th St #302	Project Number: **2218001.020.022**	**Report ID:**
Seattle, WA 98125	Project Manager: **Kate Gauglitz**	**A4G1125 - 08 06 24 1454**

APEX LABS COOLER RECEIPT FORM

Client: Landau Element WO#: A4 G1125

Project/Project #: SeaTac Development / 2218001.020.022

Delivery Info:

Date/time received: 7/11/24 @ 1122 By: KMS

Delivered by: Apex__Client__ESS__FedEx X UPS__Radio__Morgan__SDS__Evergreen__Other__

From USDA Regulated Origin? Yes ____ No (X) none for KRS 7/11/24

Cooler Inspection Date/time inspected: 7/11/24 @ 1122 By: KMS

Chain of Custody included? Yes X No ____

Signed/dated by client? Yes X No ____

Contains USDA Reg. Soils? Yes ____ No X Unsure (email RegSoils) ____

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	5.0						
Custody seals? (Y/N)	N						
Received on ice? (Y/N)	Y						
Temp. blanks? (Y/N)	Y						
Ice type: (Gel/Real/Other)	Real						
Condition (In/Out):	In						

Cooler out of temp? (Y/N) Possible reason why: ____

Green dots applied to out of temperature samples? Yes (No)

Out of temperature samples form initiated? Yes (No)

Sample Inspection: Date/time inspected: 7/11/24 @ 12:57 By: ZA ZA 7/11

All samples intact? Yes X No ___ Comments: All 8/8 COC MW-07 240710 12:57 Cont Read MW-7-240710

Bottle labels/COCs agree? Yes ___ No X Comments: All 8/8 COC reads MW-07-240710 Cont Reads MW-7-240710 ; 2 of MW-19-240710 unpres. time reads 936 CoC reads 1136

COC/container discrepancies form initiated? Yes ___ No X

Containers/volumes received appropriate for analysis? Yes X No ___ Comments: ____

Do VOA vials have visible headspace? Yes ___ No X NA ____

Comments ____

Water samples: pH checked: Yes X No___NA___ pH appropriate? Yes X No___NA___ pH ID: A23172

Comments: ____

2769 1736 4205
TR#3575

Labeled by: WN Witness: KMS Cooler Inspected by: ZA

Form Y-003 R-02

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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July 23, 2024 Service Request No:K2407251

Philip Nerenberg
Apex Laboratories
6700 SW Sandburg St.
Tigard, OR 97223

Laboratory Results for: A4G1125

Dear Philip,

Enclosed are the results of the sample(s) submitted to our laboratory July 12, 2024
For your reference, these analyses have been assigned our service request number **K2407251.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3364. You may also contact me via email at howard.holmes@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Howard Holmes
Project Manager

ADDRESS 1317 S. 13th Avenue, Kelso, WA 98626
PHONE +1 360 577 7222 | FAX +1 360 636 1068
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: Apex Laboratories
Project: A4G1125
Sample Matrix: Water

Service Request: K2407251
Date Received: 07/12/2024

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Five water samples were received for analysis at ALS Environmental on 07/12/2024. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by  Date 07/23/2024

SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

CLIENT ID: MW-07-240710			Lab ID: K2407251-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Carbon, Total Organic	2.10		0.08	0.50	mg/L	SM 5310 C

CLIENT ID: MW-12-240710			Lab ID: K2407251-002			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Carbon, Total Organic	9.00		0.08	0.50	mg/L	SM 5310 C

CLIENT ID: MW16-240710			Lab ID: K2407251-003			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Carbon, Total Organic	0.29	J	0.08	0.50	mg/L	SM 5310 C

CLIENT ID: MW-17A-240710			Lab ID: K2407251-004			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Carbon, Total Organic	0.50		0.08	0.50	mg/L	SM 5310 C

CLIENT ID: MW-19-240710			Lab ID: K2407251-005			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Carbon, Total Organic	0.29	J	0.08	0.50	mg/L	SM 5310 C

Sample Receipt Information

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: Apex Laboratories **Service Request:**K2407251
Project: A4G1125

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K2407251-001	MW-07-240710	7/10/2024	1237
K2407251-002	MW-12-240710	7/10/2024	1355
K2407251-003	MW16-240710	7/10/2024	1041
K2407251-004	MW-17A-240710	7/10/2024	0937
K2407251-005	MW-19-240710	7/10/2024	1136

SUBCONTRACT ORDER

Apex Laboratories

A4G1125

SENDING LABORATORY:

Apex Laboratories
6700 S.W. Sandburg Street
Tigard, OR 97223
Phone: (503) 718-2323
Fax: (503) 336-0745
Project Manager: Philip Nerenberg

RECEIVING LABORATORY:

ALS Group USA - Kelso
1317 S 13th Avenue
Kelso, WA 98626
Phone :(360) 577-7222
Fax: (360) 636-1068

All 8 containers read MW-7-240710 and CoC r

Sample Name: MW-07-240710 **Sampled: 07/10/24 12:37** (A4G1125-01)

Analysis	Due	Expires	Comments
Total Organic Carbon - H2O (5310C)	07/24/24 17:00	08/07/24 12:37	
Containers Supplied: (E)250 mL Poly - Sulfuric (H2SO4)			

Sample Name: MW-12-240710 **Sampled: 07/10/24 13:55** (A4G1125-02)

Analysis	Due	Expires	Comments
Total Organic Carbon - H2O (5310C)	07/24/24 17:00	08/07/24 13:55	
Containers Supplied: (J)250 mL Poly - Sulfuric (H2SO4)			

Sample Name: MW-16-240710 **Sampled: 07/10/24 10:41** (A4G1125-03)

Analysis	Due	Expires	Comments
Total Organic Carbon - H2O (5310C)	07/24/24 17:00	08/07/24 10:41	
Containers Supplied: (E)250 mL Poly - Sulfuric (H2SO4)			

Sample Name: MW-17A-240710 **Sampled: 07/10/24 09:37** (A4G1125-04)

Analysis	Due	Expires	Comments
Total Organic Carbon - H2O (5310C)	07/24/24 17:00	08/07/24 09:37	
Containers Supplied: (E)250 mL Poly - Sulfuric (H2SO4)			

Standard TAT

Released By 7/12/24 0920 Date — Received By Franklin LaBeche 7/12/24 935 Date

Released By Franklin LaBeche 7/12/24 1255 Date — Received By 7/12/24 1255 Date

VN2407251

SUBCONTRACT ORDER

Apex Laboratories

A4G1125

Time on 2/2 unpres. polys read 9:36

Sample Name: MW-19-240710 **Sampled: 07/10/24 11:36** (A4G1125-05)

Analysis	Due	Expires	Comments
Total Organic Carbon - H2O (5310C)	07/24/24 17:00	08/07/24 11:36	
Containers Supplied:			
(I)250 mL Poly - Sulfuric (H2SO4)			

Released By	Date	Received By	Date
[signature]	7/12/24 0920	Franklin LaBiche	7/12/24 935
Franklin LaBiche	7/12/24 1255	Naomi Reder	7/12/24 1255

PM HH

Cooler Receipt and Preservation Form

Client APEX Service Request K24 07251

Received: 7/12/24 Opened: 7/12/24 By: NP Unloaded: 7/12/24 By: NP

1. Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified if out of temp	Tracking Number NA	Filed
4.1		IR06					

4. Was a Temperature Blank present in cooler? NA Y N If yes, notate the temperature in the appropriate column above:
   If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":
5. Were samples received within the method specified temperature ranges? NA Y N
   If no, were they received on ice and same day as collected? If not, notate the cooler # above and notify the PM. NA Y N

If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

6. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
8. Were samples received in good condition (unbroken) NA Y N
9. Were all sample labels complete (ie, analysis, preservation, etc.)? NA Y N
10. Did all sample labels and tags agree with custody papers? NA Y N
11. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
12. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
13. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
14. Was C12/Res negative? NA Y N
15. Were samples received within the method specified time limit? If not, notate the error below and notify the PM NA Y N
16. Were 100ml sterile microbiology bottles filled exactly to the 100ml mark? NA Y N Underfilled Overfilled

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: _____

Miscellaneous Forms

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value over the calibration range.
J	The result is an estimated value between the MDL and the MRL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client:	Apex Laboratories	**Service Request:**	K2407251
Project:	A4G1125/		

Sample Name:	MW-07-240710	**Date Collected:**	07/10/24
Lab Code:	K2407251-001	**Date Received:**	07/12/24
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
SM 5310 C		MSPECHT

Sample Name:	MW-12-240710	**Date Collected:**	07/10/24
Lab Code:	K2407251-002	**Date Received:**	07/12/24
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
SM 5310 C		MSPECHT

Sample Name:	MW16-240710	**Date Collected:**	07/10/24
Lab Code:	K2407251-003	**Date Received:**	07/12/24
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
SM 5310 C		MSPECHT

Sample Name:	MW-17A-240710	**Date Collected:**	07/10/24
Lab Code:	K2407251-004	**Date Received:**	07/12/24
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
SM 5310 C		MSPECHT

Sample Name:	MW-19-240710	**Date Collected:**	07/10/24
Lab Code:	K2407251-005	**Date Received:**	07/12/24
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
SM 5310 C		MSPECHT

Sample Results

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Analytical Report

Client:	Apex Laboratories	**Service Request:**	K2407251
Project:	A4G1125	**Date Collected:**	07/10/24 12:37
Sample Matrix:	Water	**Date Received:**	07/12/24 12:55
Sample Name:	MW-07-240710	**Basis:**	NA
Lab Code:	K2407251-001		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Carbon, Total Organic	SM 5310 C	**2.10**	mg/L	0.50	0.08	1	07/17/24 15:04	

Analytical Report

Client:	Apex Laboratories	**Service Request:**	K2407251
Project:	A4G1125	**Date Collected:**	07/10/24 13:55
Sample Matrix:	Water	**Date Received:**	07/12/24 12:55
Sample Name:	MW-12-240710	**Basis:**	NA
Lab Code:	K2407251-002		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Carbon, Total Organic	SM 5310 C	**9.00**	mg/L	0.50	0.08	1	07/17/24 15:04	

Analytical Report

Client:	Apex Laboratories	**Service Request:**	K2407251
Project:	A4G1125	**Date Collected:**	07/10/24 10:41
Sample Matrix:	Water	**Date Received:**	07/12/24 12:55
Sample Name:	MW16-240710	**Basis:**	NA
Lab Code:	K2407251-003		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Carbon, Total Organic	SM 5310 C	**0.29 J**	mg/L	0.50	0.08	1	07/17/24 15:04	

Analytical Report

Client:	Apex Laboratories	**Service Request:**	K2407251
Project:	A4G1125	**Date Collected:**	07/10/24 09:37
Sample Matrix:	Water	**Date Received:**	07/12/24 12:55
Sample Name:	MW-17A-240710	**Basis:**	NA
Lab Code:	K2407251-004		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Carbon, Total Organic	SM 5310 C	**0.50**	mg/L	0.50	0.08	1	07/17/24 15:04	

Analytical Report

Client:	Apex Laboratories	**Service Request:**	K2407251
Project:	A4G1125	**Date Collected:**	07/10/24 11:36
Sample Matrix:	Water	**Date Received:**	07/12/24 12:55
Sample Name:	MW-19-240710	**Basis:**	NA
Lab Code:	K2407251-005		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Carbon, Total Organic	SM 5310 C	**0.29 J**	mg/L	0.50	0.08	1	07/17/24 15:04	

QC Summary Forms

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Analytical Report

Client:	Apex Laboratories	**Service Request:**	K2407251
Project:	A4G1125	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K2407251-MB		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Carbon, Total Organic	SM 5310 C	ND U	mg/L	0.50	0.08	1	07/17/24 15:04	

Client:	Apex Laboratories	**Service Request:**	K2407251
Project:	A4G1125	**Date Collected:**	07/10/24
Sample Matrix:	Water	**Date Received:**	07/12/24
		Date Analyzed:	07/17/24
		Date Extracted:	NA

Matrix Spike Summary
Carbon, Total Organic

Sample Name:	MW-17A-240710	**Units:**	mg/L
Lab Code:	K2407251-004	**Basis:**	NA
Analysis Method:	SM 5310 C		
Prep Method:	None		

Matrix Spike
K2407251-004MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	0.50	25.0	25.0	98	83-117

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

QA/QC Report

Client:	Apex Laboratories	**Service Request:**	K2407251
Project	A4G1125	**Date Collected:**	07/10/24
Sample Matrix:	Water	**Date Received:**	07/12/24
		Date Analyzed:	07/17/24

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	MW-17A-240710	**Units:**	mg/L
Lab Code:	K2407251-004	**Basis:**	NA

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample K2407251-004DUP Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	0.50	0.08	0.50	0.47 J	0.488	6	10

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Apex Laboratories	**Service Request:**	K2407251
Project:	A4G1125	**Date Analyzed:**	07/17/24
Sample Matrix:	Water	**Date Extracted:**	NA

Lab Control Sample Summary
Carbon, Total Organic

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	847676

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2407251-LCS	23.9	25.0	96	83-117

Air TECHNOLOGY
Laboratories, Inc.

July 30, 2024

LA Cert #04140
EPA Methods TO3, TO14A, TO15, 25C/3C, ASTM D1946, RSK-175
TX Cert T104704450-14-6
EPA Methods TO14A, TO15
UT Cert CA0133332015-3
EPA Methods TO3, TO14A, TO15, RSK-175

Apex Laboratories
ATTN: Philip Nerenberg
6700 S.W. Sandburg St.
Tigard, OR 97223

LABORATORY TEST RESULTS

Project Reference: A4G1125
Lab Number: R071605-01/05

Enclosed are results for sample(s) received 7/16/24 by Air Technology Laboratories. Samples were received intact and chilled to 4° C. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

- Unless otherwise noted in the report, sample analyses were performed within method performance criteria and meet all requirements of the TNI Standards.
- The enclosed results relate only to the sample(s).

ATL appreciates the opportunity to provide testing services to your company. If you have any questions regarding these results, please call me at (626) 964-4032.

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Enclosures

Note: The cover letter is an integral part of this analytical report.

SUBCONTRACT ORDER

R071605-01/05

Apex Laboratories

A4G1125

Attic Flume

WAB

SENDING LABORATORY:

Apex Laboratories
6700 S.W. Sandburg Street
Tigard, OR 97223
Phone: (503) 718-2323
Fax: (503) 336-0745
Project Manager: Philip Nerenberg

RECEIVING LABORATORY:

Air Technology Laboratories, Inc
18501 E. Gale Ave Suite 130
City of Industry, CA 91748
Phone :(626) 964-4032
Fax: (626) 964-5832

Containers read MW-7-240710

01 **Sample Name: MW-07-240710** **Water** **Sampled: 07/10/24 12:37** (A4G1125-01)

Analysis	Due	Expires	Comments
RSK 175 Preserved (Meth, Eth, Eth) (Sub) *Containers Supplied:* (A)40 mL VOA - HCL (B)40 mL VOA - HCL (C)40 mL VOA - HCL	07/24/24 17:00	07/24/24 12:37	Methane only

02 **Sample Name: MW-12-240710** **Water** **Sampled: 07/10/24 13:55** (A4G1125-02)

Analysis	Due	Expires	Comments
RSK 175 Preserved (Meth, Eth, Eth) (Sub) *Containers Supplied:* (F)40 mL VOA - HCL (G)40 mL VOA - HCL (H)40 mL VOA - HCL	07/24/24 17:00	07/24/24 13:55	Methane only

03 **Sample Name: MW-16-240710** **Water** **Sampled: 07/10/24 10:41** (A4G1125-03)

Analysis	Due	Expires	Comments
RSK 175 Preserved (Meth, Eth, Eth) (Sub) *Containers Supplied:* (A)40 mL VOA - HCL (B)40 mL VOA - HCL (C)40 mL VOA - HCL	07/24/24 17:00	07/24/24 10:41	Methane only

Standard TAT

4°C HO

Released By	Date	Received By	Date
UPS (Shipper)	7/15/24	UPS (Shipper)	
Released By	Date	Received By	Date
	7/16/24 10:19		7/16/24 10:19

SUBCONTRACT ORDER

R071605-01/05

Apex Laboratories

A4G1125

KAB

04 **Sample Name: MW-17A-240710** **Water** **Sampled: 07/10/24 09:37** (A4G1125-04)

Analysis	Due	Expires	Comments
RSK 175 Preserved (Meth, Eth, Eth) (Sub)	07/24/24 17:00	07/24/24 09:37	Methane only
Containers Supplied:			
(A)40 mL VOA - HCL			
(B)40 mL VOA - HCL			
(C)40 mL VOA - HCL			

Time on 2/2 unpres. polys read 9:36

05 **Sample Name: MW-19-240710** **Water** **Sampled: 07/10/24 11:36** (A4G1125-05)

Analysis	Due	Expires	Comments
RSK 175 Preserved (Meth, Eth, Eth) (Sub)	07/24/24 17:00	07/24/24 11:36	Methane only
Containers Supplied:			
(A)40 mL VOA - HCL			
(B)40 mL VOA - HCL			
(C)40 mL VOA - HCL			

Standard TAT

4°C HO

Released By	Date	Received By	Date
[signature]	7/15/24	UPS (Shipper)	
UPS (Shipper)	7/16/24 10:19	[signature]	7/16/24 10:19
Released By	Date	Received By	Date

Client: Apex Laboratories
Attn: Philip Nerenberg
Project Name: NA
Project No.: A4G1125
Date Received: 07/16/24
Matrix: Water
Reporting Units: ug/L

RSK175

Lab No.:	R071605-01		R071605-02		R071605-03		R071605-04	
Client Sample I.D.:	MW-07-240710 (A4G1125-01)		MW-12-240710 (A4G1125-02)		MW-16-240710 (A4G1125-03)		MW-17A-240710 (A4G1125-04)	
Date/Time Sampled:	7/10/24 12:37		7/10/24 13:55		7/10/24 10:41		7/10/24 9:37	
Date/Time Analyzed:	7/22/24 14:41		7/22/24 14:54		7/22/24 15:06		7/22/24 15:25	
QC Batch No.:	240722GC8A1		240722GC8A1		240722GC8A1		240722GC8A1	
Analyst Initials:	AS/KD		AS/KD		AS/KD		AS/KD	
Dilution Factor:	1.0		1.0		1.0		1.0	
ANALYTE	Result ug/L	RL ug/L	Result ug/L	RL ug/L	Result ug/L	RL ug/L	Result ug/L	RL ug/L
Methane	810	1.0	570	1.0	ND	1.0	ND	1.0

ND = Not Detected (below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ Date 7/30/24
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

Client: Apex Laboratories
Attn: Philip Nerenberg
Project Name: NA
Project No.: A4G1125
Date Received: 07/16/24
Matrix: Water
Reporting Units: ug/L

RSK175								
Lab No.:	R071605-05							
Client Sample I.D.:	MW-19-240710 (A4G1125-05)							
Date/Time Sampled:	7/10/24 11:36							
Date/Time Analyzed:	7/22/24 15:38							
QC Batch No.:	240722GC8A1							
Analyst Initials:	AS/KD							
Dilution Factor:	1.0							
ANALYTE	Result ug/L	RL ug/L						
Methane	ND	1.0						

ND = Not Detected (below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ Date 7/30/24
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

QC Batch No: 240722GC8A1
Matrix: Water
Reporting Units: ug/L

RSK 175
LABORATORY CONTROL SAMPLE SUMMARY

Lab No.:	METHOD BLANK			LCS		LCSD					
Date/Time Analyzed:	7/22/24 2:26			7/22/24 13:20		7/22/24 1:47					
Analyst Initials:	AS/KD			AS/KD		AS/KD					
Dilution Factor:	1.0			1.0		1.0			Limits		
ANALYTE	Result ug/L	RL ug/L	SPIKE AMT. ug/L	Result ug/L	% Rec.	Result ug/L	% Rec.	RPD %	Low %Rec	High %Rec	Max. RPD
Methane	ND	1.0	650	533	81	502	77	6.0	70	130	30

ND = Not Detected (below RL)
RL = Reporting Limit

Reviewed/Approved By: _____ **Date** 7/30/24

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

AirTECHNOLOGY Laboratories, Inc.
18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

Thursday, August 15, 2024

Kate Gauglitz
Landau Associates (Northgate)
155 NE 100th St #302
Seattle, WA 98125

RE: A4H0993 - Sea-Tac Development Site - 2218001.020.022

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A4H0993, which was received by the laboratory on 8/9/2024 at 9:45:00AM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: pnerenberg@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Cooler Receipt Information
Acceptable Receipt Temperature is less than, or equal to, 6 degC (not frozen), or received on ice the same day as sampling.
(See Cooler Receipt Form for details)
Default Cooler 0.3 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.
All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

Landau Associates (Northgate)	Project: **Sea-Tac Development Site**	
155 NE 100th St #302	Project Number: **2218001.020.022**	**Report ID:**
Seattle, WA 98125	Project Manager: **Kate Gauglitz**	**A4H0993 - 08 15 24 2117**

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-12-240808	A4H0993-01	Water	08/08/24 10:50	08/09/24 09:45
Trip Blank-240808	A4H0993-02	Water	08/08/24 00:00	08/09/24 09:45

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document(s) and updated by any subsequent written communications. This analytical report must be reproduced in its entirety.

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

Landau Associates (Northgate)	Project: **Sea-Tac Development Site**	
155 NE 100th St #302	Project Number: **2218001.020.022**	**Report ID:**
Seattle, WA 98125	Project Manager: **Kate Gauglitz**	**A4H0993 - 08 15 24 2117**

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-12-240808 (A4H0993-01)				**Matrix: Water**		**Batch: 24H0417**		
Gasoline Range Organics	**5200**	50.0	100	ug/L	1	08/12/24 20:30	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 105 %*		*Limits: 50-150 %*	*1*	*08/12/24 20:30*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)		*102 %*		*50-150 %*	*1*	*08/12/24 20:30*	*NWTPH-Gx (MS)*	
Trip Blank-240808 (A4H0993-02)				**Matrix: Water**		**Batch: 24H0417**		**CONT**
Gasoline Range Organics	ND	50.0	100	ug/L	1	08/12/24 18:42	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 95 %*		*Limits: 50-150 %*	*1*	*08/12/24 18:42*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)		*101 %*		*50-150 %*	*1*	*08/12/24 18:42*	*NWTPH-Gx (MS)*	

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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APEX LABORATORIES

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

Landau Associates (Northgate)	Project: **Sea-Tac Development Site**	
155 NE 100th St #302	Project Number: **2218001.020.022**	**Report ID:**
Seattle, WA 98125	Project Manager: **Kate Gauglitz**	**A4H0993 - 08 15 24 2117**

ANALYTICAL SAMPLE RESULTS

BTEX Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW-12-240808 (A4H0993-01)				**Matrix: Water**		**Batch: 24H0417**		
Benzene	**10.6**	0.100	0.200	ug/L	1	08/12/24 20:30	EPA 8260D	
Toluene	**37.4**	0.500	1.00	ug/L	1	08/12/24 20:30	EPA 8260D	
Ethylbenzene	**198**	0.250	0.500	ug/L	1	08/12/24 20:30	EPA 8260D	
Xylenes, total	**468**	0.750	1.50	ug/L	1	08/12/24 20:30	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)			*Recovery: 98 %*	*Limits: 80-120 %*	*1*	*08/12/24 20:30*	*EPA 8260D*	
Toluene-d8 (Surr)			*100 %*	*80-120 %*	*1*	*08/12/24 20:30*	*EPA 8260D*	
4-Bromofluorobenzene (Surr)			*94 %*	*80-120 %*	*1*	*08/12/24 20:30*	*EPA 8260D*	
Trip Blank-240808 (A4H0993-02)				**Matrix: Water**		**Batch: 24H0417**		**CONT**
Benzene	ND	0.100	0.200	ug/L	1	08/12/24 18:42	EPA 8260D	
Toluene	ND	0.500	1.00	ug/L	1	08/12/24 18:42	EPA 8260D	
Ethylbenzene	ND	0.250	0.500	ug/L	1	08/12/24 18:42	EPA 8260D	
Xylenes, total	ND	0.750	1.50	ug/L	1	08/12/24 18:42	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)			*Recovery: 96 %*	*Limits: 80-120 %*	*1*	*08/12/24 18:42*	*EPA 8260D*	
Toluene-d8 (Surr)			*101 %*	*80-120 %*	*1*	*08/12/24 18:42*	*EPA 8260D*	
4-Bromofluorobenzene (Surr)			*98 %*	*80-120 %*	*1*	*08/12/24 18:42*	*EPA 8260D*	

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

ANALYTICAL REPORT

Landau Associates (Northgate)	Project: Sea-Tac Development Site	
155 NE 100th St #302	Project Number: 2218001.020.022	Report ID:
Seattle, WA 98125	Project Manager: Kate Gauglitz	A4H0993 - 08 15 24 2117

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24H0417 - EPA 5030C									Water			
Blank (24H0417-BLK1)				Prepared: 08/12/24 13:39 Analyzed: 08/12/24 18:21								
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	50.0	100	ug/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 93 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*102 %*	*50-150 %*			*"*					
LCS (24H0417-BS2)				Prepared: 08/12/24 13:39 Analyzed: 08/12/24 18:00								
NWTPH-Gx (MS)												
Gasoline Range Organics	512	50.0	100	ug/L	1	500	---	102	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 99 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*103 %*	*50-150 %*			*"*					
Duplicate (24H0417-DUP1)				Prepared: 08/12/24 13:39 Analyzed: 08/12/24 23:43								
QC Source Sample: Non-SDG (A4H0893-01)												
Gasoline Range Organics	**11500**	5000	10000	ug/L	100	---	11000	---	---	4	30%	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 95 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*100 %*	*50-150 %*			*"*					

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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APEX LABORATORIES

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

Landau Associates (Northgate)	Project: **Sea-Tac Development Site**	
155 NE 100th St #302	Project Number: **2218001.020.022**	**Report ID:**
Seattle, WA 98125	Project Manager: **Kate Gauglitz**	**A4H0993 - 08 15 24 2117**

QUALITY CONTROL (QC) SAMPLE RESULTS

BTEX Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24H0417 - EPA 5030C												**Water**
Blank (24H0417-BLK1)			Prepared: 08/12/24 13:39 Analyzed: 08/12/24 18:21									
EPA 8260D												
Benzene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Toluene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Ethylbenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Xylenes, total	ND	0.750	1.50	ug/L	1	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 97 %*	*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)			*102 %*	*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)			*98 %*	*80-120 %*			*"*					
LCS (24H0417-BS1)			Prepared: 08/12/24 13:39 Analyzed: 08/12/24 17:39									
EPA 8260D												
Benzene	19.1	0.100	0.200	ug/L	1	20.0	---	95	80-120%	---	---	
Toluene	19.5	0.500	1.00	ug/L	1	20.0	---	97	80-120%	---	---	
Ethylbenzene	20.6	0.250	0.500	ug/L	1	20.0	---	103	80-120%	---	---	
Xylenes, total	64.2	0.750	1.50	ug/L	1	60.0	---	107	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 95 %*	*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)			*102 %*	*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)			*94 %*	*80-120 %*			*"*					
Duplicate (24H0417-DUP1)			Prepared: 08/12/24 13:39 Analyzed: 08/12/24 23:43									
QC Source Sample: Non-SDG (A4H0893-01)												
Benzene	ND	10.0	20.0	ug/L	100	---	ND	---	---	---	30%	
Toluene	ND	50.0	100	ug/L	100	---	ND	---	---	---	30%	
Ethylbenzene	ND	25.0	50.0	ug/L	100	---	ND	---	---	---	30%	
Xylenes, total	ND	75.0	150	ug/L	100	---	ND	---	---	---	30%	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 94 %*	*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)			*103 %*	*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)			*99 %*	*80-120 %*			*"*					
Matrix Spike (24H0417-MS1)			Prepared: 08/12/24 13:39 Analyzed: 08/12/24 20:51									
QC Source Sample: MW-12-240808 (A4H0993-01)												
EPA 8260D												
Benzene	32.4	0.100	0.200	ug/L	1	20.0	10.6	109	79-120%	---	---	

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

Landau Associates (Northgate)	Project: **Sea-Tac Development Site**	
155 NE 100th St #302	Project Number: **2218001.020.022**	**Report ID:**
Seattle, WA 98125	Project Manager: **Kate Gauglitz**	**A4H0993 - 08 15 24 2117**

QUALITY CONTROL (QC) SAMPLE RESULTS

BTEX Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24H0417 - EPA 5030C								**Water**				
Matrix Spike (24H0417-MS1)			Prepared: 08/12/24 13:39 Analyzed: 08/12/24 20:51									
QC Source Sample: MW-12-240808 (A4H0993-01)												
Toluene	56.2	0.500	1.00	ug/L	1	20.0	37.4	94	80-121%	---	---	
Ethylbenzene	203	0.250	0.500	ug/L	1	20.0	198	**22**	**79-121%**	---	---	E, Q-03
Xylenes, total	469	0.750	1.50	ug/L	1	60.0	468	**2**	**79-121%**	---	---	Q-03
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 102 %*		*Limits: 80-120 %*			*Dilution: 1x*				
Toluene-d8 (Surr)			*100 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*96 %*		*80-120 %*			*"*				

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Philip Nerenberg

Philip Nerenberg, Lab Director

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SAMPLE PREPARATION INFORMATION

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5030C

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24H0417							
A4H0993-01	Water	NWTPH-Gx (MS)	08/08/24 10:50	08/12/24 13:39	5mL/5mL	5mL/5mL	1.00
A4H0993-02	Water	NWTPH-Gx (MS)	08/08/24 00:00	08/12/24 13:39	5mL/5mL	5mL/5mL	1.00

BTEX Compounds by EPA 8260D

Prep: EPA 5030C

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24H0417							
A4H0993-01	Water	EPA 8260D	08/08/24 10:50	08/12/24 13:39	5mL/5mL	5mL/5mL	1.00
A4H0993-02	Water	EPA 8260D	08/08/24 00:00	08/12/24 13:39	5mL/5mL	5mL/5mL	1.00

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QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

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CONT	The Sample Container provided for this analysis was not provided by Apex Laboratories, and has not been verified as part of the Apex Quality System.
E	Estimated Value. The result is above the calibration range of the instrument.
Q-03	Spike recovery and/or RPD is outside control limits due to the high concentration of analyte present in the sample.

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REPORTING NOTES AND CONVENTIONS:

Abbreviations:

DET Analyte DETECTED at or above the detection or reporting limit.

ND Analyte NOT DETECTED at or above the detection or reporting limit.

NR Result Not Reported

RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as " dry", " wet", or " " (blank) designation.

" dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.

" wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.

" " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

Results for Volatiles analyses on soils and sediments that are reported on a “dry weight” basis include the water miscible solvent (WMS) correction referenced in the EPA 8000 Method guidance documents. Solid and Liquid samples reported on an “As Received” basis do not have the WMS correction applied, as dry weight was not performed.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) may not be included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

" --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

" *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

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REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to one half of the Reporting Limit (RL).
Blank results for gravimetric analyses are evaluated to the Reporting Level, not to half of the Reporting Level.
-For Blank hits falling between ½ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.
-Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.
'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level, if results are not reported to the MDL.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

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LABORATORY ACCREDITATION INFORMATION

ORELAP Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

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Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation

All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation.
Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provded by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

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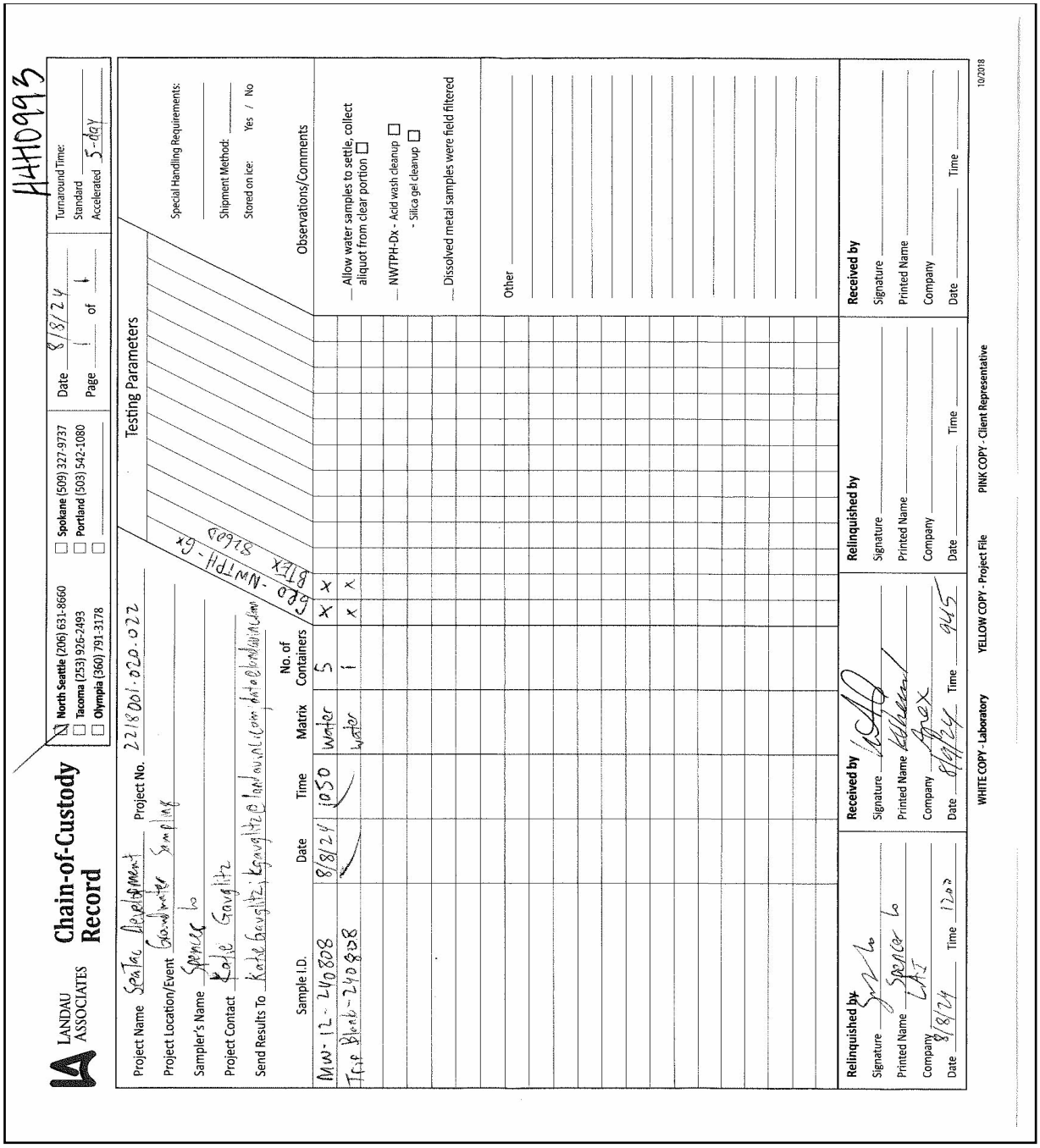

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APEX LABS COOLER RECEIPT FORM

Client: ~~SeaTac~~ Landau Element WO#: A4H0993 3 8/15/24

Project/Project #: SeaTac Development / 2218001.020.022

Delivery Info:

Date/time received: 8/9/24 @ 945 By: KMS

Delivered by: Apex__Client__ESS__FedEx X UPS__Radio__Morgan__SDS__Evergreen__Other__

From USDA Regulated Origin? Yes ____ No X

Cooler Inspection Date/time inspected: 8/9/24 @ 945 By: KMS

Chain of Custody included? Yes X No ____

Signed/dated by client? Yes X No ____

Contains USDA Reg. Soils? Yes ____ No X Unsure (email RegSoils) ____

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	0.3						
Custody seals? (Y/N)	N						
Received on ice? (Y/N)	Y						
Temp. blanks? (Y/N)	Y						
Ice type: (Gel/Real/Other)	Real						
Condition (In/Out):	In						

Cooler out of temp? (Y/N) Possible reason why: ____

Green dots applied to out of temperature samples? Yes (No)

Out of temperature samples form initiated? Yes (No)

Sample Inspection: Date/time inspected: 8/9/24 @ 1225 By: JS

All samples intact? Yes X No ___ Comments: ____

Bottle labels/COCs agree? Yes X No ___ Comments: ____

COC/container discrepancies form initiated? Yes ___ No X

Containers/volumes received appropriate for analysis? Yes X No ___ Comments: ____

Do VOA vials have visible headspace? Yes ___ No X NA ____

Comments ____

Water samples: pH checked: Yes___No___NA X pH appropriate? Yes___No___NA X pH ID:____

Comments: ____

2780 6393 0400

Labeled by: JS Witness: KMS Cooler Inspected by: JS

Form Y-003 R-02

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